JANUARY 1953

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COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS

JOIN THE **REO** *Haul of Fame!*

Pike was no piker at picking peaks,
He really found a prize;
But Reo takes them as they come,
And cuts them down to size.

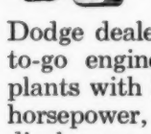
Mr. PIKE says: *"Gold Comet* power zips Reos over hills 15% to 20% faster than similarly rated trucks carrying the same payload. This means extra trips and extra earnings for Reo owners. Up to 150 extra miles per 100 gallons of gas, too."

REO MOTORS, INC.
Lansing 20, Michigan

LOOK TO REO FOR COMPETITIVE PRICING . . . 107 TO 162.5 HORSEPOWER, LP GAS OPTIONAL
MORE-PAY-LOAD DESIGN . . . OUTSTANDING TRUCK IN THE DIESEL MARKET

ANNOUNCING

A new Dodge truck parade of power!



NEW! More powerful engines!

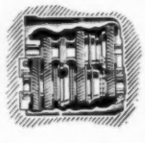
A parade of power! See the new Dodge "*Job-Rated*" trucks at your Dodge dealer's today. A total of 7 big, rarin'-to-go engines, including 3 brand-new power plants with high compression ratios and higher horsepower, greater cooling capacity, increased displacement, twin carburetion available on larger models. Plus famous features like 4-ring pistons with chrome-plated top ring, exhaust valve seat inserts.

In addition, the new Dodge trucks offer outstanding new brakes, new no-shift transmission, and over 50 other new features. See your Dodge dealer for the biggest truck buy on record!

For a truck, ½-ton through 4-ton that fits the job, see the NEW...

NEW! Extra-powerful brakes!

Stop easily on steep grades, fully loaded. Super-safe brakes give silky-smooth braking, reduced driver fatigue, greater load protection . . . new increased stopping ability on 1- through 2½-ton trucks! *PLUS* Dodge's oversize braking surface with Cyclebond linings.



NEW! Truck-o-matic transmission!

New Truck-o-matic transmission . . . available on ½- and ¾-ton models of Dodge "*Job-Rated*" trucks . . . saves shifting, cuts driver fatigue, lets you rock out of snow, mud, sand. Only Dodge offers shift-free Truck-o-matic! *PLUS* famous gyrol Fluid Drive, to lengthen truck life, protect your load.

NEW! Over 50 features!

50 ways new! Reinforced cab construction, improved exhaust system, extra-capacity radiators. Tinted glass, heaters with stepped-up heat output available. *PLUS* moistureproof ignition, high-torque capacity starting motors, and other dependability features. See your Dodge dealer.

DODGE "Job-Rated" TRUCKS

Now on display at Your Dodge Dealer's!

ALUMINUM

ECONOMIES in '53

CHEVROLETS • FORDS • G.M.C.

The Comet: 8ft 980-lb. Aluminum-Alloy Body with 300 cu. ft. loadspace on 104" wheelbase. Gets through traffic in a jiffy.

The Clipper: 10ft long, 360 cu. ft. Aluminum-Alloy Body that weighs 1175 lbs. Available on 122" and 125" wheelbase ¾-ton chassis.

The Peak Loader: Revolutionary 12ft Aluminum-Alloy Body with 440 cu. ft. loadspace on ¾-ton chassis —122" or 125" wheelbase. Body weighs only 1370 lbs. — increasing payload capacity 1,000 lbs.

HOW USERS GET ROUTE TRUCKS FREE!

Dreikorn Bakery saves nearly 2c a mile with aluminum body route trucks. My Bread Bakery reports a saving of 2150 lbs. deadweight and 4½ gallons of gasoline daily on long routes. Pilgrim Laundry reports a peak-load volume of $1700.00 a week in place of $1203.00 with heavy steel body truck on same route and 11 miles instead of former 7 miles per gallon of gasoline. These savings pay for their trucks and a bonus besides!

The Load Lugger: 12ft long, 440 cu. ft. unit for payloads up to 5694 lbs. on 137-inch 1-ton chassis and 7500 lbs. on 130" 1½-ton chassis. Body weighs 1370 lbs.

The Super Cargo: 15ft long, 560 cubic foot manhigh loadspace on 154" 1½-ton chassis. Body weighs only 1670 lbs.

All over America route truck operators are changing from heavy steel bodies to heat-treated aluminum alloy bodies to save the excessive costs of corrosion, denting and deadweight. Our 1953 Models offer revolutionary economies. If you're tired of rust, corrosion, denting, excessive gasoline and tire costs, frequent brake and clutch jobs, write us today or ask your local dealer about Olson Aluminum Alloy bodies.

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JOURNAL

CCJ READER DIGEST

Balanced Brake Program Cuts Costs by 35%

Longer brake life, improved tire life and safer equipment can be realized with close attention to all the factors which influence synchronization. Conestoga grinds drums while assembled to wheel and hubs, uses circle grinding methods on blocks, holds line pressure and push rod travel to close tolerances, insists upon each wheel doing its share of braking. See page 66.

Safety Winners Tip Off Success Secrets

ATA's trophy winners point out the importance of driver cooperation, healthy attitudes, good supervision, well-maintained vehicles in any safety program. These recommendations, while far from new, will help to emphasize important points in a war on accidents. See page 76.

Selecting Reefer Equipment . . .

Here is a round up of available refrigerating equipment for any size or type fleet. A general description of mechanical units, hold-over plates, dry ice equipment and various types of power sources will help to guide you in selecting your new units. See page 70.

Stop Shop Fires Before They Start

Every shop has a fire hazard—is a fire hazard unless special attention is given each factor outlined in this article. This study will help to point out to your mechanics the importance of good housekeeping, of caution with inflammables, of a thorough knowledge of extinguisher equipment and how to use it. Page 86.

Legislative Outlook for 1953

You can expect continued emphasis on highway planning and methods of paying for new roads. Toll road agitation continues. Retaliation against ton mile tax looms. See what Arthur Butler of NHUC has to say about the year ahead. Page 74.

CCJ for '53

Observant readers will note some "new model" changes in format, beginning with this issue. These have been made for the sole purpose of making your reading easier. Immediately following these pages you will find the "Overload" a greatly expanded version of "At Your Service," and "Dates and Doings." Then, after brief pause for "Commercials," you will find "Bulletin Board," "Laughs" and the three important news features immediately preceding the main editorial section which begins on page 64. Hope you like it!

To a fleet maintenance chief who has to "keep 'em rolling"!

Here's Hygrade's pump with the "never-say-die" diaphragm

Nobody has to tell *you* that it's the diaphragm that makes or breaks a fuel pump. You've seen too many perfectly good pumps fold up after only a few thousand miles because the diaphragm "went".

Here's HYGRADE'S solution — the one-piece, non-corrosive *Monoflex* diaphragm that *lasts for the life of the pump.* And it's not just the rugged material in it that makes *Monoflex* the longest-lived diaphragm on the market—it's also the way it's fitted. The diaphragm is so tightly sandwiched between the smooth casting surfaces that not even the *smell* of gas can escape.

Its great diaphragm isn't the only reason for this HYGRADE fuel pump's popularity with fleet men. For instance, the rocker arm is heat-treated for extra strength and minimized wear. And its valve springs are phosphor bronze, oil-treated, remain perfectly elastic.

Write our engineering department for complete details. That's HYGRADE PRODUCTS DIVISION, Standard Motor Products, Inc., 37-18 Northern Boulevard, Long Island City 1, New York

HYGRADE

Carburetor Kits • Fuel Pumps & Kits • Speedometer Cables & Casings

—AND THE BOSS' DOUGH ISN'T ALL IT SAVES!

THERE's been a lot less wear and tear on *me* since the Boss cut costs on truck seat cushions!

Don't get me wrong—he didn't buy anything cheaper. He's had all that malarkey. He just up and replaced all bunged-up seat cushions with full-volume AIRFOAM—and hasn't needed new cushions—or covers—since.

Not a *one*, mind you—and some of our trucks have clocked off 150,000 miles and more!*

And he hasn't needed new drivers, either! That AIRFOAM's got what it takes to keep *us* relaxed and comfortable over the toughest routes on the circuit!

So I say "Just keep on giving us AIRFOAM, Boss — and we won't begrudge you your savings!"

★ ★ ★

DRIVERS, FLEET OPERATORS, using full-volume AIRFOAM, tell us it's easy on drivers and seat covers, never lumps, sags or breaks down—seemingly wears forever. We're sure they'll tell you the same—but for some signed maintenance records to pop your eyes wide open, write Goodyear, Airfoam Division, Akron 16, Ohio.

**From actual case history. Write us for many more.*

THE SECRET OF AIRFOAM COMFORT:

AIRFOAM gives to the lightest touch—comes back with gentle upward pressure. It's this airy buoyancy that smothers bumps and jolts, makes AIRFOAM so relaxing to ride or rest upon.

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THE WORLD'S FINEST CUSHIONING

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The OVERLOAD

EDITORIAL COMMENT

It Will Pay to Keep an Eye on New York

FLEET operators from coast to coast would do well to adopt a policy of keeping a weather eye on New York state. For New York is fast becoming the bellwether state for rather unfavorable truck legislation.

Governor Dewey was the first of his fraternity to accept the "results" of the Maryland Road Test—almost a year before they were official. As a direct result New York got its ton-mile (weight-distance) tax. . . . New York is also the home of the Griffenhagen report boys (comparative truck taxation throughout the country), of Carl Byoir & Associates (representing the Association of American Railroads) of the New York Good Roads Association and several other groups whose activities are definitely not confined to their home state.

Last month we began a news item with the sentence: "New York has done it again." The item referred to the new edict increasing truck registration fees. This month, New York has done it again! It's a release from the New York Good Roads Assn. which makes some very interesting statements. Among them are these:

1. Poor roads (in New York state) are costing the public more than $570 million a year.

2. The cost of bringing highways and roads in New York state up to adequate standards comes to $288.4 million per year for the next ten years.

3. It's up to the Commission to get the money, probably through increased taxes for gasoline, registrations *"and the truckers."*

4. The old diversion cry will reach an all-time high . . . but this charge is denied by Dept. of Public Works which "points to the fact that more money is being made available for road and street purposes than is being collected totally from all highway users taxes."

We doubt that there are many truckers who will not cast a skeptical eye at these statements. Frankly we had hoped to have a detailed analysis for this issue. But as the wires burned between here, Syracuse and Albany it became evident that a "quickee" research job could be misleading. At the moment we must be content with a progress report. On these points (numbered in accordance with the highlights of the release above), we are fairly well satisfied:

1. The $570 million a year figure is nebulous. The truck and bus share of $240 million that could be saved through adequate roads is based on projected figures. If commercial vehicles in the state travel 10 billion miles a year and if they could save 2.4 cents a mile with better roads that would reap $240 million. But those are mighty big "ifs."

2. The highway cost estimate of $288.4 million is a reasonably conservative figure; includes only project improvements; compares with a current figure for this item of about $156 million.

3. There is a very good chance that the commission will seek increased taxes in all three categories mentioned. Also there is little doubt that most highway users will be willing to *pay* more *if* they can *save* more.

4. The state does pay out more than it takes in highway users' taxes if it includes as income only the $172 odd million from gasoline taxes and registrations. But there are whopping additional highway income sources from local real estate taxes, counties, towns, etc., that rightly should absorb much of the cost for local highway improvements. There is also about $23 million from Federal aid. All added up, these additional sources tip the scale the other way. On top of that is the undisputed fact that the state does divert something over $75 million of its special highway tax income to other purposes.

As candidate for the best understatement of the new year we offer this one—the situation is complex. It is also challenging and of great importance to truck interests. We hope shortly to bring readers a fairly detailed analysis of just what's what but before leaving the situation temporarily, we'd like to drop one more observation:

In our dealings with both the state's Department of Public Works and with the New York Good Roads Association we have received excellent cooperation. The latter is an organization primarily backed by highway builders and one with which it would be far better to work with than against. In both cases we hope the differences can be resolved with reason rather than emotion.

Bart Rawson
Editor

——————— REDUCES

——That's why:

MORE THAN *500 MILLION* POUNDS OF TEXACO MARFAK HAVE BEEN SOLD!

Because it's tougher and does a far better job than ordinary grease, *Texaco Marfak* is easily the world's most famous chassis lubricant. It *stays in* the bearings. Rough service won't pound *Texaco Marfak* out. Heavy loads won't squeeze it out. Thus, you get longer lasting protection against wear, dirt and rust . . . longer life for chassis parts and lower maintenance costs.

In wheel bearings, *Texaco Marfak Heavy Duty* gives similar top protection. It seals out dirt and moisture, seals itself *in* — assuring longer lasting lubrication and greater safety. It needs no seasonal change.

In engines — heavy-duty gasoline or Diesel — use *Texaco D-303 Motor Oil.* It's fully detergent and dispersive . . . keeps engines clean . . . cuts fuel consumption and maintenance costs.

Call in a Texaco Lubrication Engineer. Let

TUNE IN . . . TEXACO STAR THEATER starring MILTON BERLE, on television Tuesday nights. METROPOLITAN OPERA radio broadcasts Saturday afternoons.

TEXACO

At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by **MURRAY SIMKINS** Managing Editor

Check Old Batteries Before Installation

It won't pay this winter to install a newly charged battery that has not been carefully checked for serviceability. Many batteries that may accept a charge, show a specific gravity reading of well over 1.225, yet still may not be dependable for cold starts. Be sure to recheck after bench charging if the unit is old or suspected of being defective.

Let the battery stand 15 to 18 hours; then discharge it at 1½ times its 20-minute rate for a period of 30 seconds. During this test each cell should show at least 1.8 volts and the three-cell total should be at least 5.4 volts.

Or—make an open circuit self-discharge test by recording the specific gravity and temperature of each cell immediately after charge. Let it stand on open circuit for 48 hours; then record gravity and temperature. If the corrected specific gravity readings indicate a drop of 14 points or more in any one cell over this period, the battery will not last long in your truck.

For Longer Wheel Bearing Life

A recent issue of "Lubrication," published by The Texas Co., lists 20 conditions which can affect the life of a wheel bearing. Check these possibilities:

1. Inadequate cleanliness.
2. Bearing parts dropped.
3. Bearing parts distorted or chipped in removal or installation.
4. Bearing parts damaged by contact with wrong type of surface. (Use soft clean lintless cloth)
5. Seals damaged by dragging wheel on spindle in removal or mounting.
6. Use of dirty or wet air to dry bearings.
7. Spinning bearings with air while drying.
8. Handling of contact surfaces when dry. (Body acids)
9. Failure to inspect and repack bearings immediately after drying.
10. Inadequate inspection. Use of bearing showing spalling, flaking, rust, excessive wear, brinneling, loose or misaligned cups in hubs and presence of bits of old grease, dirt, chips and cleaning solvent.
11. Use of mismated parts. Replace whole bearing (cup and cone) when one part fails.
12. Use of bad or wrong type of seal or omitting altogether.
13. Improper seal installation.
14. Poor wheel bearing or wheel design.
15. Improper bearing adjustment. Too loose or too tight.
16. Use of wrong grease, dirty grease (usually user's fault), and mixing of greases.
17. Improper lubricant application.
18. Insufficient repack frequency for type of service.
19. Dragging brakes.
20. Overfilling of wheel hub cavity.

GMC Recommends MIL-L-2105

GMC Truck and Coach Div. has recently revised lubricant recommendations for all rear axles except worm drive and in other units where multi-purpose or hypoid lubricants are used. Hypoid lubricant now used and recommended conforms to the MIL-L-2105 specification.

The Case for Re-refined Oil

It is generally agreed that "oil does not wear out." Thus it may be restored to a quality "as good as new" by re-refining, according to some authorities. Re-refined oil should not be confused with reclaimed oil, however. Re-refined oil is an oil that has had all impurities removed by a refining process similar in many respects to that given virgin oil. Reclaimed oil, on the other hand, is used oil from which such impurities as solid carbon, gasoline, road dirt and water have been removed by filtration and low heat treatment. In this process distillation, absorption and filtration are all employed, simulating the process the oils went through in the original refining of the crude.

Various methods of reclaiming oil have been developed over the years; most of these methods are based solely on the removal of visible impurities. It is

(TURN TO PAGE 12, PLEASE)

RUGGED...that's th

★ **AIRCRAFT TYPE INSULATOR**
Offers maximum resistance to heat and reduces fouling.

★ **HEAVY ELECTRODES**
Give longer gap life which contributes to lower service costs by requiring regapping less often.

★ **RUGGED CONSTRUCTION**
Especially suitable for the most severe bus and truck operation.

Auto-Lite Spark Plugs—Patented U.S.A.

You're always right with AUTO-LITE

t's the word!

AUTO-LITE

TRANSPORT SPARK PLUGS

deliver lowest cost per mile

of spark plug operation

FAMOUS Auto-Lite Transport Spark Plugs are built to save you money on long runs or stop-and-go operation . . . designed to help you deliver the goods at the *lowest cost per mile of spark plug operation!* Many fleet owners insist on Auto-Lite Transport Spark Plugs for their entire fleet . . . many of America's leading truck and tractor makers specify Auto-Lite Transport Spark Plugs as original factory equipment. This is proof that you, too, should try this great heavy-duty plug in your fleet. Make a test today. You'll discover why!

Toledo 1, Ohio **THE ELECTRIC AUTO-LITE COMPANY** Toronto, Ontario

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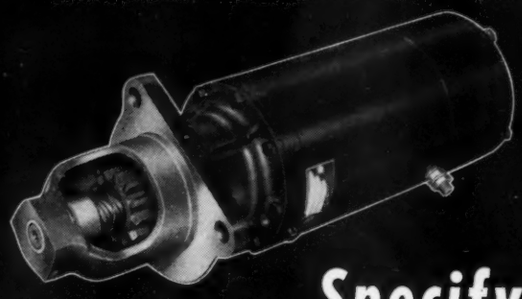
SURE STARTING



Specify
Leece-Neville
CRANKING MOTORS

You're sure of more runs, fewer layups, with L-N Cranking Motors on your fleet. High torque makes instant breakaway, even with cold, stiff engine. Fast cranking speed insures a quick start. And famous L-N rugged construction guarantees unmatched reliability and long life. For 12 volt and 12-24 volt series-parallel systems. Also higher voltages. It will pay you to specify L-N.

Out front over 43 years

Since 1909 Leece-Neville has been in the forefront of invention, development and perfection of automotive electric equipment. The *first* generators and cranking motors used as standard equipment on automobiles were built by Leece-Neville, who also brought out the *first* third-brush generator. Today, with outstanding engineering and production facilities, L-N is the acknowledged leader in design and manufacture of special and heavy-duty electric units. The Leece-Neville Company, Cleveland 14, Ohio.

YOU CAN RELY ON Leece-Neville

ALTERNATOR SYSTEMS • GENERATORS
CRANKING MOTORS • REGULATORS
SWITCHES • SMALL MOTORS

TRUCK BUS DIESEL OFF-HIGHWAY
PASSENGER RAILROAD MARINE INDUSTRIAL

CCJ At Your Service

Continued from Page 9

said that many harmful impurities found in used oils, some of which are not easily detected, such as moisture, diluants, tars, resins, etc., do not properly yield to extraction through filtering. As a result the filtered oil may lack body, proper viscosity, etc. It is important that the reader not confuse the two terms for these reasons.

Steps in re-refining basically break down as follows:

1. Removal of water and solid particles by dehydration and settling.
2. Sulphuric acid treatment to precipitate gums, grease and other matter.
3. Alkaline treatment to neutralize acid compounds.
4. Water wash to remove soaps formed in neutralization.
5. Mixing and special clays to bleach the oil and absorb certain impurities.
6. Distillation to drive off moisture, light ends and other volatiles.
7. Filtering to remove clay and other solids.

Re-refined oils are produced to serve both diesel and gasoline engines. Today there are nearly 150 re-refineries throughout the country processing up to 75 million gallons of used oil annually. Installations range from small $750 pot stills which process five gallons in three hours to million dollar plants to handle hundreds of barrels a day.

Today many bus companies are using re-refined oil. One large operation uses 120,000 gallons of oil for re-refining annually. A cab company in California reclaims 150 gallons of oil a week at a cost of 10 cents a gallon and saves around $100 a week. The Association of Petroleum Re-refiners will provide additional information on this subject if you care to look into the possibilities of re-refined oil.

Know Your Acetylene Cylinders

Do you know that there is no free gas in an acetylene cylinder? It contains gas dissolved in a liquid, which saturates a solid, but absorbent filler. The cylinder filler material is highly porous. This porous filler soaks up acetone, a liquid chemical in which acetylene will dissolve while under pressure. When the cylinder valve is opened the pressure is relieved and the acetylene comes out of the acetone as a gas, ready for use.

Acetylene cylinders should always be stored and used in an upright position. If a cylinder is used while lying on its side, the liquid acetone may be carried into the regulator and prevent it from working properly. If the acetone reaches the blowpipe tip it will greatly reduce the flame's temperature. This can make it difficult to get a sound weld—from Linde Air-Products Co.

(TURN TO PAGE 14, PLEASE)

AVERAGE MILEAGE UP 68%

Lee Know-How Did It!

Here, briefly, is the story of how a careful study of rapid tread wear paid off in a big way.

PROBLEM	RECOMMENDATIONS	RESULTS
To increase mileage of original treads, particularly on driving wheels ***Operation***—General trucking in Southeastern United States ***Equipment***—Tractor semitrailers ***Axle Loads***—Vary with nature of load, but always heavy ***Speed***—High-speed operation ***Roads***—Highly abrasive ***Tires Used***—10.00-20 highway type ***Average Mileage***—19,000—on roads like these it is impossible to get good mileage, but the average for this fleet was abnormally low	***Because*** abrasive road surfaces wore down treads rapidly, Lee recommended the Lee Extra Tread Tire (in same size and ply rating). This tire has approximately 40% more tread depth. With the heavier, stiffer tread members on this tire there is less scuffing, and the rate of wear is very slow. ***Because*** good mileage is impossible without correct air pressure, and because this tire requires 10 pounds more, Lee recommended that hauler permanently fix his air gauge at correct amount. This made it impossible to underinflate.	**1** The rate of wear was slower from the start. **2** During more than two years, the average tire mileage was 68% higher than it had previously been. **3** This increase in tire mileage was accomplished with only approximately 12% increase in original tire cost, so that trucker now is actually getting 50% more mileage per dollar.

Whatever your tire problem, whether treads, sidewalls, strong carcasses for repeated recaps, traction or maintenance procedures, Lee know-how can help you solve it. Bring your tire problems to Lee.

Lee Rubber & Tire Corp., Dept. 2A
Conshohocken, Pa.

Please send me information about your special engineering survey for truck fleets.

Name_____

Company_____

Address_____

_____

LEE RUBBER & TIRE CORPORATION — LEE TIRES — CONSHOHOCKEN, PA.

extra miles

heavy duty

C.L.U.T.C.H. Accurate S.E.R.V.I.C.E.

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powerflex clutch plate

- patented "flat-top" cushion
- triple-duty spring supports
- exclusive self-aligning hub splines

Accurate PARTS MFG. CO.

12435 EUCLID AVENUE • CLEVELAND 6, OHIO

ccj At Your Service

Continued from Page 12

6-volt Batteries in 12-volt Systems

Some operators are using two 6-volt batteries in place of one 12-volt unit in some vehicles with 12-volt ignition systems. While battery manufacturers as a rule do not recommend this practice, the use of two 6-volt units has worked out in some cases. However, if this practice is followed, be sure to use two batteries of the exact size and age. The use of one 15-plate and one 17-plate, of course, simply means that you have the capacity of the smaller battery. When an old battery is hooked up in this manner, battery life is only as long as the weaker of the two. It should be mentioned here that 12-volt batteries, using stronger and heavier parts, last longer than 6-volt units.

Can You Use a Dynamometer?

A field survey of Los Angeles County conducted by Clayton Mfg. Co. comes up with some pips with regard to the effectiveness of chassis dynamometer in assembly lines of local automobile plants, in various dealer establishments and in commercial fleets in that area. Here's what they say:

The dynamometer 1. has reduced the time required to sell or identify correct repairs by 92 per cent; 2. eliminates 80 per cent of road testing; 3. doubles capacity for tune up jobs per service stall; cuts conventional factory flat rate tune up time in half; reduces premature failures and comebacks 86 per cent where the dynamometer after check on major overhauls is used.

Now percentages like this are hard to pin down. They may mean nothing whatever—except that the caliber of the work previous to the installation of the dynamometer was poor. But you might look into the possibility of dynamometer use in your fleet. You don't have to save much time or many road failures to justify its cost.

More LP Gas Conversion

There appears to be a growing demand for LP gas conversion equipment. Twin Coach Co. and Fageol Products Co. approved the use of Algas carburetion equipment for buses over a year ago. Now two more major manufacturers have given approval for its use. Both Continental and Diamond T are making this type conversion equipment available as standard equipment.

Diamond T makes an unusual installation of the Algas system in that this company specifies a dual tank and dual equipment installation. This arrangement calls for a Model 1405 carburetor, a 1500 E converter and two No. A-670 filters with two No. 10816 valves. The system operates from two 55-gal fuel tanks, and is installed so that the driver can simply throw a switch in the cab and use fuel from either tank, thus providing longer runs between refueling stops.

(TURN TO PAGE 18, PLEASE)

WEBSTER

FIRST TO REVEAL THE FACTS YOU SHOULD KNOW ABOUT

Camelback

Fleet Owners deserve to know what goes into the making of the camelback they use and how the proper ingredients serve to produce all-around quality. The Webster Rubber Company is the first camelback manufacturer to reveal *all* the ingredients in its product . . . Webster Certified Tread.

HERE'S HOW WEBSTER BUILDS QUALITY INTO CAMELBACK...

- GRS with a high percentage of Cold Rubber added—for longer wear!
- Highest quality Gas Black — for extra strength!
- Sulphur with Zinc Oxide and Santocure — for fast, even cure!
- Stearic and Paraflux—for better flow!

And Here's What These Ingredients Mean To YOU . . .

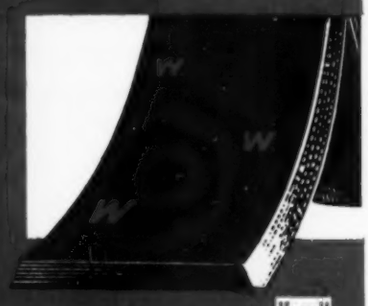
Results of Proper Compounding:

Specific Gravity 1.14
No heavy fillers, reclaim, or weakening agents. Only quality ingredients can produce this figure

Tensile Strength 2400
Achieved only by blending more costly blacks

Elongation 590
Represents a high degree of resilience

Hardness 60
An excellent rating that gives Webster Camelback longer wear



Look for the Cured in Red "W"

"Hope to Be Seeing You!"

Webster's strict quality control and skilled supervision during production assure this same uniform quality in every roll of camelback produced. This quality, plus the famous Websterizing Process gives you the finest recaps money can buy. See your Webster dealer soon, and ask him about his *New Tire Mileage* guarantee!

WEBSTER
RUBBER COMPANY
Warren, Ohio

W
WEBSTER CERTIFIED TREAD

WEBSTER...A Famous American Name

You'll want a copy of this 36-page booklet. It's crammed with details, photographs, drawings that show you how to save hours and dollars

- declogging radiators
- degreasing motors
- descaling blocks
- stripping paint
- cleaning interiors
- reconditioning parts

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CCJ At Your Service

Continued from Page 14

Sun's 3-Minute Battery Test

Sun Electric Co. has come up with a simple practical 3-minute battery test based on the theory that a charged battery may be tested by taking current out of it; a discharged battery may be tested by passing current through it. Here it is:

1. Make capacity test noting voltage under a load of three times the ampere hour rating. If voltage is 4.8 volts or more, it has a good output capacity. But a specific gravity reading should be taken. If the gravity is below 1.250, test charging system to determine cause. Then recharge.

If the voltage is below 4.8 volts, test charge the battery with a 3-minute fast charge at a rate of 75 amps. While under a fast charge test individual cell voltages. If cell voltages are uneven by more than .1 volt, the battery is defective. If the cell voltages are even within .1 volt, make a further test of total voltage with charger still operating on fast charge.

If the total voltage is under 7.75 volts, test specific gravity reading and follow up with a recharge. But if the total voltage is over 7.75 volts, the battery is possibly sulphated and must be given a continued slow charge. This battery can be placed back in service if capacity comes back to above 4.8 volts.

Available from Sun is a four-page guide showing each of these steps and a handy battery, starter and charging system test report for use of the mechanic.

Rubber Lubricant Cleans Windshields

Here's a tip for winter driving. American Grease Stick Co. suggests that a rubber lubricant applied to the wiper blades will prevent the usual smearing of the windshield by dirty blades when the wiper is turned on.

Ford Head Gasket Installation

The new one-piece steel head gasket used on Ford overhead valve engines effects a seal by virtue of the embossing around the head and block openings and a thin coating of a special lacquer applied to both sides of the gasket. Torquing of the head bolts effects a crushing action of the embossings which is the primary sealing action. Engine heat softens lacquer coating causing it to flow into any minute openings which might exist, completing the sealing action of the gasket.

Therefore, cleanliness of the head and block gasket surfaces during head gasket replacement is a prime requisite because any foreign material between the sealing surfaces will cause leakage which can only be corrected by a new gasket replacement. Do not attempt to correct leaks by exceeding the torque specifications for the head bolts (65-70 ft lb—6-cyl, 80-90 ft lb—8-cyl.

A gasket must not be reused since the embossings have been previously crushed. It is necessary that guide studs be employed when installing the cylinder head in order to insure against damage to the head gasket.

You need a new set of rules to judge this AUTOCAR

The time has come to throw away the book and judge heavy-duty truck engines by a different set of standards. You won't find anything to compare with this modern valve-in-head V/8 engine. It has all kinds of power—200 plus hp—and the quick, sure response only the V/8 design gives. It has built-in smoothness of operatjon, quick pick-up, and good road speeds.

Smart buyers will appreciate these four typical examples of the modern design that went into every part of the engine:

- Weight-power ratio lowest of all comparable truck engines—about 6 lbs. per hp.
- Boxlike V/8 construction of engine block for extra rigidity, large 5-bearing support for the crankshaft.

200 HP

- With overhead valve design, you can easily reach the points that require maintenance—downtime and shop labor costs are reduced.
- Wet cylinder sleeves, a major contribution to low maintenance costs, can be replaced at a fraction of the cost of reboring the block.

You'll want to know more about this sensational valve-in-head V/8 engine. Fill out the coupon below for this informative booklet.

AUTOCAR TRUCKS

The Autocar Company, Ardmore, Pa.

Established 1897

Factory Branches and Dealers from Coast to Coast

The Autocar Company, Ardmore, Pa.

Please send me the Autocar V/8 booklet.

Name_____ Title_____

Company_____

Street_____

City_____ Zone____ State_____

Number of trucks in fleet_____

3A

CCJ NEWS REPORTS

WASHINGTON RUNAROUND

by KARL RANNELLS Washington Correspondent

There'll Be Some Changes Made

That is more than a catch-phrase in Washington this year and one in which motor carriers will have more than a passing interest. Changes will include: Reorganization of Congress; proposed streamlining of the Interstate Commerce Commission; outcome of legislative proposals affecting motor carriers; and possible new blood in ICC and other governmental agencies.

Reorganization of Congress under a Republican majority reverses the membership ratio of committees, changes chairmanships. Probable membership of the Senate Interstate Commerce Committee will be seven Republicans, six Democrats, with New Hampshire's Charles W. Tobey as chairman, if he wants the job. Make-up of the House committee is likely to be 17 Republicans, 13 Democrats, Rep. Charles A. Wolverton of New Jersey is first in line for chairman.

Streamlining for ICC

Forthcoming report on the ICC management survey, was scheduled to be handed over to Senator Edwin C. Johnson, outgoing chairman of the Interstate Commerce committee, by December 27. Specific findings and proposals have been kept under wraps. But good sources indicate that streamlining would center around an Executive Director to take over most of the administrative work, leaving the commissioners free to give more attention to policy-making and other duties.

Major Lease Decision Pending

A decision as to the legality of the ICC order concerning interchange and leasing practices of motor carriers is expected to be handed down shortly by the United States Supreme Court. Argument before the high tribunal was completed in late November. But court schedules and other pending decisions may delay the truck ruling until sometime in February. Attorneys from the American Trucking Associations, Inc., and individual motor carriers presented the case for the truckers. Also present were spokesmen for the railroads, declaring they had a "competitive" interest in the case. At stake were such long-standing practices as short term leasing, rental of equipment without drivers, and discriminatory aspects. But the big issue from an overall standpoint is whether the ICC has jurisdiction and authority to regulate leasing at all.

In December, the high court handed down a decision affecting a specific phase of leasing. It upheld Arkansas courts in requiring owner-driven leased trucks to obtain interstate trucking permits just the same as contract carriers—even though carrying only products of the firm to whom leased. The court held that this is necessary for identification but it did not rule as to whether a state could legally refuse to grant such permits.

Free Reign on Production

In late December, National Production Authority virtually lifted the lid from automobile and truck production as of April 1—providing manufacturers can scrape together the necessary steel, copper, and aluminum. Beginning with the second quarter, NPA says, the industry will be allowed to make up to 1,500,000 passenger cars and 315,000 trucks a quarter.

The catch is that NPA doesn't expect enough materials to be available, especially aluminum, for allocation to meet such totals. The agency says it will be lucky to be able to allocate enough materials to make 80 per cent of these figures possible.

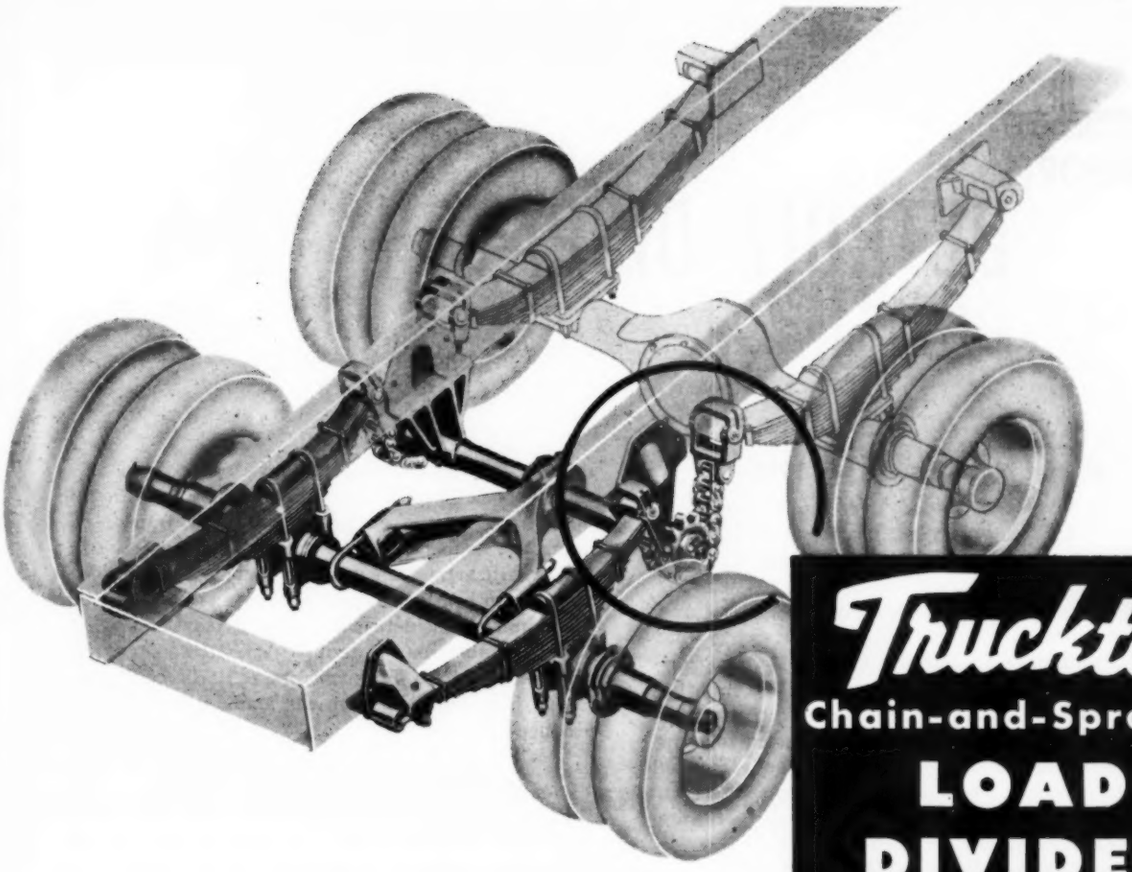
Employment Very High

Government reports show a continued high employment level. Less than 1,800,000 persons were unemployed. But this isn't good news for the fleet owner who needs a driver or a mechanic.

Shortages of qualified drivers are beginning to give the trucking industry a big headache, according to surveys by the Defense Transport Administration and Interstate Commerce Commission. Also, this information shows scarcities of other help, including rate clerks and mechanics. These shortages, however, vary by region such as for drivers in West Virginia, Ohio, and Western Pennsylvania; rate clerks in Kentucky, Tennessee and Mississippi; and mechanics in nearly all regions.

Closer Tabs on Diesel Fuel

Expanding consumption of diesel fuel in almost all fields is causing the government to keep closer tabs on production and refining facilities, distribution, and end use. Domestic refineries are now producing diesel oil at an average rate of more than 11,000,000 gallons a month, according to the report on the third annual survey carried out by the Bureau of Mines in cooperation with the American Petroleum Institute.



Trucktor Chain-and-Sprocket LOAD DIVIDER

Increases load on drive axle for smooth starts ... then balances the load for easy running

- Simple... few moving parts
- Sturdy mine hoist chain
- Only two lubrication points
- Easily installed, removed

Trucktor's *Chain-and-Sprocket* Load Divider automatically transfers a fixed percentage of the load between the driving axle and the Trucktor axle. The ratio is set for most efficient operation of each truck make and model in its intended service.

Though the Load Divider is highly flexible for "floating" action over road inequalities, its simple design requires lubrication at only two points. The result: superior operating characteristics and low maintenance costs.

For further information on converting your present or new 4-wheelers with Trucktor "Truck-Mated" 3rd Axles,

see your Truck Dealer, Trucktor Distributor, or write direct to the Trucktor factory.

Boost Payloads with Trucktor 3rd AXLES

For most truck makes and models

THE TRUCKTOR CORPORATION, Route 29, Mountainside, N. J.

***Safety* IS NO ACCIDENT—*6-Wheelers* ARE SAFER!**

CCJ NEWS REPORTS

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

Million More Trucks for 1953

Nineteen fifty-three should offer no problems to truckers so far as supply of trucks, trailers, tires, replacement parts, and fuel are concerned. These items were never seriously short, even during the tightest period of the Korean war, and everything points to more production this year. It looks like about 1.3 million to 1.4 million trucks this year, compared with about 1.2 million in 1952. The industry thinks it can sell about 1.2 million new trucks this year. New registrations in 1952 are expected to show about 850,000, about the same percentage reduction under the previous year as prevails for production. Both output and sales of new trucks last year were down approximately 16 per cent from 1951

Power Steering on the Way

Power steering for trucks generally is considered primarily as an aid for extremely large heavy units. We find, however, that truck manufacturers are considering it seriously for small units used in service which requires a great deal of parking. In fact, some engineers say that power steering actually is of more benefit on a small truck which the driver has to cramp in and out of parking spaces several times a day than it is on large inter-city jobs.

ICC Tank Specs Disputed

Truck makers are in something of a hassle with ICC over fuel tank specifications written into the 1952 safety regulations, particularly for tanks enclosed within the framework of the vehicle. Both sides are compromising their differences, but the industry is asking for a nine month's extension of the effective date after agreement is reached on the disputed points. to give enough time to work the required changes into the production schedules. Biggest problem is the side-mounted tanks for which ICC requirements are particularly stiff. The industry is willing to go along with most of the side tank recommendations but wants inside tank changes kept to a minimum. It also wants replacement tanks for trucks built before the regulations go into effect exempted from the new requirements, since in many instances tanks with the new specifications might not fit into older vehicles.

New Slant on Automatic Drives

Some engineers are talking about a little different approach to automatic transmissions for trucks. They now are not so sure that it is wise to leave all of the gear ratio selection to the transmission, but that it might be better to leave the driver in control at all times. They point out that a unit that will let the operator select the gear ratio, with the transmission doing the actual work of shifting, perhaps through a power shift arrangement, has definite advantages, particularly to control shifting on down grades. Another point under consideration is that it may be economically desirable for the industry to settle on one type of automatic drive for trucks, particularly for the high torque jobs, and then have one manufacturer tool and produce it.

Additive Ups Cetane Rating

If you seem to be getting a little better performance from your diesel fuel lately, it may be that the company which makes it is spiking it with a new cetane improvement additive produced by Ethyl Corp. About a year ago we mentioned that the Navy was testing amyl nitrate compounds as a diesel fuel additive and reported encouraging results from better ignition and reduced deposits. It now is being marketed to refiners under the designation DB-36 for blending in minute amounts with diesel fuel to greatly improve its quality.

GMC to Up Compression Ratio

GMC will offer some interesting features on its new models in its light line, to be announced later this month. Compression ratios to be offered in two new engines will far surpass anything ever offered in any truck engine. In fact, the higher CR of the two will approach that of the highest offered in passenger cars today, yet the engines will operate on regular grade gasoline.

New Light Weight Alloys

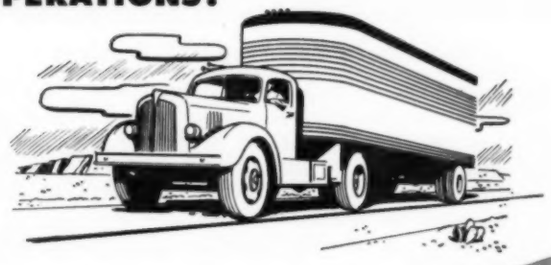
Aluminum Company of America has developed two new aluminum alloys that may prove to have considerable economic importance to the trucking industry. They are not only highly corrosion resistant, but in certain uses sections can be only half the thickness of other aluminum alloys and yet have the same strength, according to the company. One of the alloys already has been employed in a 6000-gallon tank trailer, cutting the weight 2500 lb. It also is being used in 44-ton load capacity coal trailers. The other alloy has not yet been tested commercially.

Seek to Up Diesel Fuel Tax

As a result of drives for more funds for road-building, several states are expected to seek an increase in taxes on diesel and other special fuels in relation to those imposed on gasoline.

...sure cure for oil thirsty engines...

...EVEN UNDER SEVEREST FLEET OPERATIONS!



Here's one piston ring set that really stands up under the long hours and heavy loads of fleet operation...saves oil, resists wear, restores power. That's why more and more fleets are specifying Perfect Circle's 2-in-1 Chrome Sets for every re-ring job.

2-in-1 increases road time, slashes "down" time. Its thick solid chrome plating breaks down dust and dirt particles, prevents scuffing and scoring. What's more, two expander springs, NORMAL and HIPRESSURE, are packed with every oil ring, to meet every condition of cylinder wear.

For more than double the life of cylinders, pistons and rings, be sure to have Perfect Circle's 2-in-1 Set installed on every overhaul job. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

Perfect Circle *2 in 1 chrome piston ring set*

THE STANDARD OF COMPARISON

CCJ NEWS REPORTS

JANUARY ROUNDUP

by ERNIE FOREST Assistant Editor

1953 Seen as Busy Year

Fleet operators, private, common and contract carriers, can look forward to a busy year providing satisfactory adjustment can be made from an economy where legislative controls were primary considerations to one where the law of supply and demand sparked by competition will be a growing force. With the expected end of many price, wage and material controls during the first half of the year and with the leveling out of defense production needs, the latter part of 1953 should see a change with sales ability a necessity in keeping business volume up.

Interstate Tax Proposal Snubbed . . .

National Assn. of Tax Administrators' proposal for an interstate mileage tax in lieu of existing highway user levies on trucks, reported last month, met with a mixed reception. The National Council of Private Motor Truck Owners Legislative Committee surveyed the council's membership and rejected the proposal on grounds that it would endanger reciprocity, be inequitable, have high collection cost, prevent emergency transfer of vehicles from intrastate to interstate operation, and be difficult to integrate with present state taxes. The American Assn. of Motor Vehicle Administrators also rejected the proposal.

. . . But Action Continues

Meanwhile, the Interstate Committee on Reciprocity of the Council of State Governments has recommended that it be given full consideration. American Trucking Assns. had neither accepted nor rejected the proposal at press time. It suggested three amendments to the council and has placed it on the agenda for full discussion at the January ATA Executive Committee meeting.

Trucks on Turnpike Watched

Reacting sharply to the record death toll on the Pennsylvania Turnpike—74 this year up to late November—the trucking industry has organized a 57-car cooperative patrol. Arranged by the Accident Prevention Conference of the Pennsylvania Motor Truck Assn. and coordinated by PMTA Safety Director O. D. Shipley, the patrol hopes to reduce still further the present record low for truck accidents on the pike. Individual trucking companies and two insurance firms have volunteered the cars and drivers that will patrol on an around-the-clock basis, observing only truck drivers.

SAE Heads List of Important Meetings . . .

Calendarwise, the first of four national meetings in the near future that hold important clues to the future for truck operations is the big SAE Annual Meeting, Jan. 12-16, at the Sheraton-Cadillac Hotel, Detroit. Transportation and maintenance meetings lead off the program on Monday; truck and bus programs are scheduled for Monday and Tuesday; diesel engine discussions are on Thursday; and fuels and lubricants close the week on Friday.

. . . With Private Truck Owners Next . . .

Later this month, Jan. 22-23, the National Council of Private Motor Truck Owners holds its annual meeting in Detroit's Statler Hotel. Topics on the program include: a full discussion of leasing, public reaction to private truck operation, critical appraisal of safety programs, and a panel on problems in the use of equipment and accessories.

. . . Closely Followed by TTMA . . .

Always an important meetings affecting truck transportation is the annual convention of the Truck-Trailer Manufacturers Assn., scheduled this year for Jan. 26-28, at Edgewater Gulf Hotel, Edgewater Park, Miss. Industry leaders attending this meeting and participating in the program include: ATA President Walter F. Carey, Conveyor Equipment Manufacturers Assn. Executive Vice President R. C. Sollenberger, National Highway Users Conference. Director Arthur C. Butler, National Automobile Transporters Assn. Manager R. E. Beiser, and Robert L. Douglas of ATA's Regular Common Carrier Conference.

. . . And Next Month, the National Show

It's over a month away, but many a fleet operator is writing for tickets now for the annual National Transport Vehicle Show and Fleet Maintenance Exposition, scheduled for New York City's Columbus Ave. Armory, Feb. 25-28. In addition to comprehensive exhibits of new vehicles and maintenance equipment, several new developments in the transport field will be featured.

Intercity Freight Tonnage Lags

Intercity freight tonnage moved by truck in the third quarter was 0.6 per cent below the same period in 1951 but still a full 6 per cent higher than the third quarter of 1949, according to American Trucking

(TURN TO PAGE 157, PLEASE)

International LP-Roadliner with famous Super Red Diamond Engine available in four- and six-wheel models. 42,000 to 65,000 lbs. GCW. Also available with gasoline and diesel engines.

INTERNATIONAL ROADLINERS

—with factory-installed LPG fuel system!

New International "LP" four- and six-wheel Roadliners now offer the famous Super Red Diamond valve-in-head engine designed to take full advantage of the extra power and economy inherent in LP gas.

Exhaustive laboratory and field tests demonstrate these remarkable extra operating advantages provided by the new International "LPG" units:

Greater engine efficiency with low-cost fuel—Super Red Diamond Engine compression ratios have been increased—an engineering advancement made possible by the high octane ratings of LP gas. The resulting greater engine efficiency represents an important factor in operating economy.

Longer engine life with less maintenance—International's new-type manifolding and its special mixing and regulator valves increase the clean-burning quality of LP gas. Deposits on valves are almost entirely eliminated. Engine wear and cylinder erosion are reduced and there is less contamination of lubricating oil. Many fleet operators report exceptionally high, trouble-free mileage on their International "LPG" trucks. One owner, whose name is available on request, has driven an International Roadliner more than 240,000 miles without removing either the cylinder head or the pan.

Along with improved engine economy and efficiency, these new International "LPG" trucks offer you the same stamina that has made International first in heavy-duty sales for 21 straight years. Ask your International dealer or branch about this latest International contribution to low-cost hauling.

Internationals are the first trucks to receive Underwriters' Laboratories listing of an LPG Fuel System

INTERNATIONAL HARVESTER COMPANY • CHICAGO

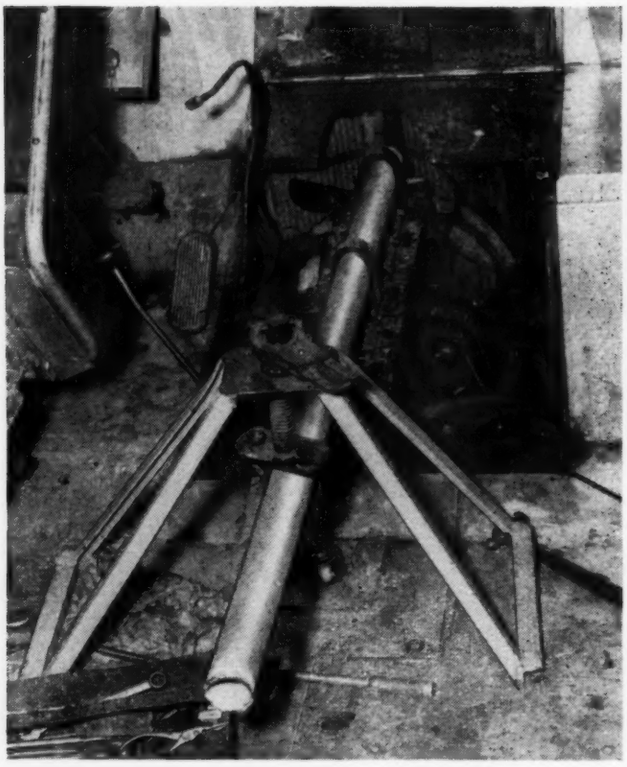
SEE YOU AT THE POLLS

International Harvester Builds McCormick Farm Equipment and Farmall Tractors . . . Motor Trucks . . . Industrial Power . . . Refrigerators and Freezers

Better roads mean a better America

INTERNATIONAL TRUCKS

"Standard of the Highway"



Frame with screw shaft enables one man to lift engine up so it can be slid through front after radiator is removed

Starter housing and Bendix drive combination makes it possible to turn crankshaft while working "down under"

Time Savers

For the Progressive Shop

By Vincent Teske
Shop Foreman, The Hecht Co.
Washington, D. C.

TEMPORARILY occupying a shop 40 x 80 ft in the group of buildings comprising the warehouse, receiving, shipping and delivery departments, we maintain a fleet of 121 units for conveying merchandise between this terminal, our customers and our three stores in Arlington, Va.; Silver Spring, Md., and Washington, D. C.

While our 3200 sq ft of shop space permits repairing only six vehicles at a time, and low ceilings and temporary quarters preclude such equipment as hydraulic lifts, we are always studying the repair of equipment in the shop with a view to cutting down time, labor and costs, and increasing safety and efficiency.

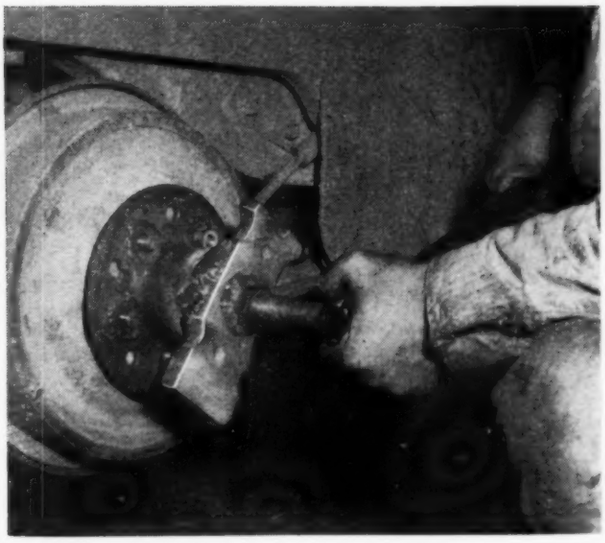
In our fleet of parcel delivery trucks, we had a number of older trucks that required special tools for repair. Not wanting to special order these tools, we devised tools of our own that would facilitate jobs on these trucks. We have since found that the tools are just as purposeful on new equipment and find daily use around the shop. In several instances the word has got abroad of special tools we had put to use, and fleet owners have come by to witness their application for installation in their own shops.

Crankshaft Turner

ONE of these tools in which we pooled our ideas and effort is a hand crankshaft turner made of a starter housing with a Bendix drive in it. We found that there was a great loss of time when a mechanic lay under a truck to put bearings in and had to come out from under several times to turn the engine or crankshaft. Our idea was to crank the engine when down under it. We removed the starter and mounted this right in place of it. Attaching a nut to the shaft of this starter housing, a mechanic now puts a ratchet wrench on the nut, the gears mesh with the flywheel, and he can turn the crankshaft to any position he wants. This

(TURN TO PAGE 106, PLEASE)

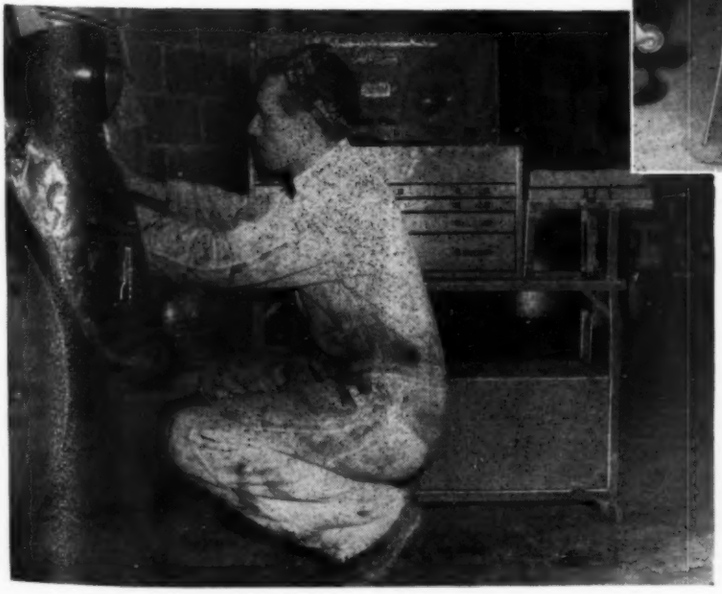
After lock ring is removed, safety press holds tire as it is inflated off rim, reducing the time to about 5 min



Using a puller made from an old wheel hub and part of a screwjack, wheels come off without damage to axle threads

Department store fleet beats the problem of limited space by using these cooperatively designed tools and equipment

Heavily loaded, wheelbarrow type, portable workbench moves easily to any job with this "fifth wheel" made from an old dolly wheel and screwjack shaft



Left. With a skeleton frame of angle iron and four creeper casters, this "tool toter" carries a 300 lb supply of tools right to the spot it's needed

You can get 60,000 miles on a set of blocks, improved tire and drum life, safer stops with close attention to all the major and minor factors which affect synchronization and balance

By R. H. Moore, Supt. of Equipment, Conestoga Transportation Co., Lancaster, Pa.

Brake Balancing Program Cuts Co

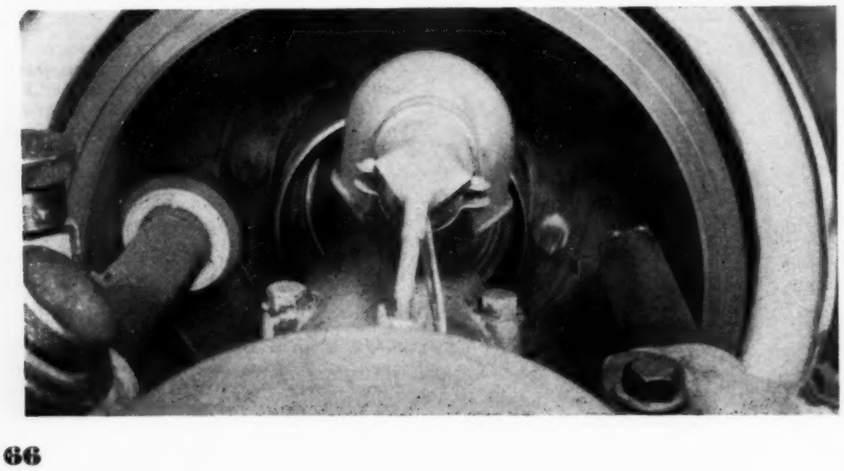
YOUR CONTROLLED brake balancing program has been instrumental in attaining longer brake block life, in upping tire life, in reducing road failures and above all, in providing for safe operation of the vehicles. We estimate costs can be cut by as much as 35 per cent with detailed attention to the problems of balance during the overhaul work. While our procedures are more or less standard, it is the constant attention to details and manufacturers' specifications, I think, that keynotes our success in this program.

We operate 105 buses in transit service in Lancaster, Pa., operating approximately 340,000 miles per month. Our records show that we are getting up to 60,000 miles on a set of brake blocks, with a more or less standard inspection procedure set up on a 1000 and a 6000-mile basis. And while many factors enter into this high mileage that are inherent with a certain property and its policies, we attribute much of this to high standards in maintenance.

It is axiomatic that to stop a coach you must do work, and our program simply arranges for a brake system that is maintained and adjusted to its fullest capacity for work. This involves attention to scores of what would appear to be minor adjustments and considerations, but what in the end, provide finer breaking performance.

Our experience proves that you

Drums are ground on a drum lathe while assembled to the hub. This results in accurate concentricity of drum face in relation to the brake assembly. Right. A reading of drum diameter is taken first with special measuring gage



Reading i grinder. T This type

must cons you are to braking:

1. Shoe push rods mechanica from dirt

2. Dru free from same mak

3. Bral proper n should throughо

4. Bra well as sp must be tion. Th chamber

5. Air be equal

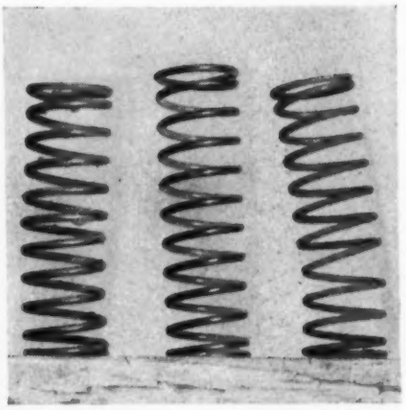
6. Sla must be

7. Init on the should b adjustme sary.

WHAT that tors lar

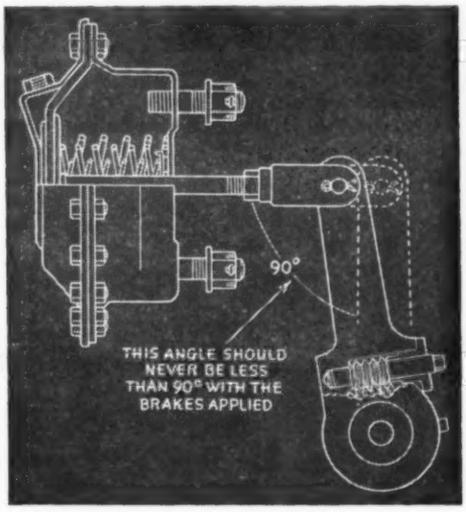
Reading is transferred to the circle grinder. This assures an exact cut. This type grinder assures true faces

An air test gage installed in line shows pressure for one inch of push rod travel. A rigid tolerance is held here



Brake chamber springs are checked for free length, number of coils and for general condition. Note new spring

Slack adjusters are set so that the angle between the push rod and the arm is 90 deg at full application



Costs by 35%

must consider the following points if you are to enjoy balanced and efficient braking:

1. Shoes, rollers, cams, pins and push rods must be free of excessive mechanical friction. This means free from dirt and wear.

2. Drums must be smooth, round, free from bellmouthing, and of the same make and size, on each axle.

3. Brake blocks must be clean, of proper mix, properly aligned and should contact the drum fully throughout the area.

4. Brake shoe return springs as well as springs in the brake chambers must be of proper tension and condition. The diaphragm in the brake chamber should be in good condition.

5. Air pressure at each wheel must be equal within rigid tolerances.

6. Slack adjuster setting and travel must be held to close specifications.

7. Initial adjustments can be made on the shop floor, but a road test should be made and a recheck or readjustment may be considered necessary.

Factors in Unbalance

WHAT we have said here implies that in balancing brakes all factors large and small pertaining to actuation and control must be taken into consideration. Variation in air pressure required to expand the shoes, for example, is important especially when a great percentage of our stops are made at relatively low pressures. A 5-lb differential or more in air pressure needed to expand the shoes is relatively unimportant when the total brake pressure is 60 psi, but it becomes tremendously important with brake applications of 15 to 20 lb. This variation in brake application force can result in increased drum temperature, increased wear, squeal, and short lining life. Such variations may be caused by friction in the foundation system or low or high spring pressure. Dirt or corrosion on the cam faces, wear of anchor pins, camshafts or rollers may contribute to this high friction. Restrictions in the air lines, and unbalance springs certainly enter into unbalanced brakes.

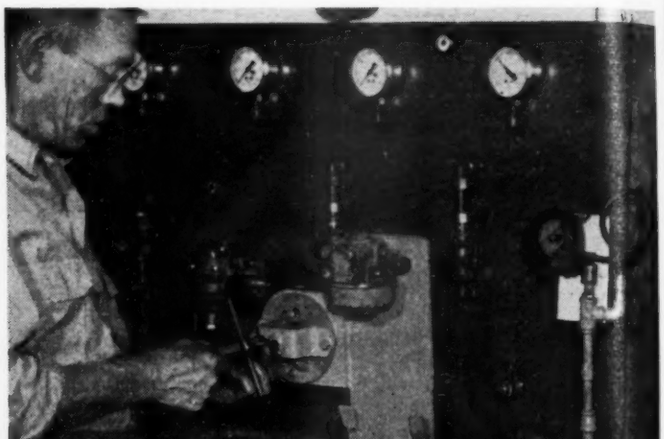
One factor in high lining life that should be emphasized is with regard to replacement practices. We make every effort to change blocks in complete sets. Here's why. If you replace only the rear set there is a great differential in friction between front and rear due to the glazing on the front set. Thus the new lining is forced to do excessive work, and high temperature results. The continual glazing of the front brakes accounts for some of the wheel locking, grabbing and squeal, as well as high rates of wear on the rear. The result is that this reaches a point where repeated renewals of the rear will cost you more than less frequent renewals of the complete sets.

Drum-to-Lining Contact

WE subscribe to the method of grinding drums on a drum lathe while assembled to the hub and wheel. We find that this method results in accurate concentricity of the drum face in relation to the hub and the foundation brake assembly. We turn down new drums after they are as-

(TURN TO NEXT PAGE, PLEASE)

A pyrocon (pyrometer) is used after a road test to check drum temperatures. A variation of 10 deg between drums on same axle calls for readjustment



Right. An air test bench is used to check D-1 valves for dumping pressure and for piston travel. Other tests include those for governor, wiper and relay emergency valve. Bench is a must in balancing

Brake Balancing Program Cuts Costs

Continued from page 67

sembled to the hub and wheels have been installed, for we have found that they are not as accurate as we want.

We check the drum for scoring or uneven wear with a feeler gage held across its surface. If a .010 feeler gage can be inserted at any point between the drum and a straight edge held across its surface, it is considered ready for regrinding. If the drum is not concentric within .010 total indicator reading, the drum is reconditioned.

We believe that drums should never be machined to more than 0.310 in. beyond the original diameter. We find that if more metal is removed, the drums have a tendency to warp or bellmouth under high braking pressures. There is another important reason for this practice. If the cross sectional area is reduced beyond this point, the drum will absorb less heat, reach a higher temperature more quickly, but there will not be sufficient mass left to dissipate the heat into the air.

We machine drums to 0.060 in. beyond the original diameter without requiring the use of oversize lining, but if drums are worn enough to require machining in excess of 0.060 in., we turn to 0.125 in. over original diameter for 1st oversize lining and 0.250 in. for a 2nd oversize lining. We usually get two regrinds from a brake drum. Since we want the same diameter drums installed in pairs, we machine one ring around the mouth of the drum upon the first regrind, two rings at the second regrind, so that we can tell at a glance the history of each drum.

One of the most important considerations in fitting shoes to the drums is the drum-to-lining contact, and we firmly believe that the best method of obtaining accurate fits is through what is known as "circle grinding" of the blocks after installation. The circle grinding assures us that the brake blocks are true, concentric with the drum and of the exact diameter of the drum so that 100 per cent lining area is utilized. It is a well-known fact that brake lining manufacturers permit a plus or minus tolerance in making their blocks, and it is possible to have two blocks on the same shoes with a difference in thickness that permits high local pressures, rapid scoring of the drum and lining. Circle grinding has been our answer to these problems.

After a good drum-to-lining contact has been established, it is important that the air pressures required to expand the shoes against the drum are checked for equal distribution. We install an air gage in each brake chamber line to take these readings. We think it is very important to hold these readings to close tolerances in the interest of brake balance.

After the initial setting and with all

(TURN TO PAGE 142, PLEASE)

"Transit Pars"

A Challenge to ALL Fleetmen

Busmen have made a start in establishing a standard for allocation of major costs. In the interest of efficiency can truck fleets set up a similar goal?

By Bart Rawson
Editor, Commercial Car Journal

FOR AS many years as the industry is old, fleet operators in all vocations have been seeking a means of comparing the efficiency of their operations with others in similar fields. It has been, as we editorialized last May, a quest for standard pars.

As different groups have sought the solution to the problem, they have invariably faced head on the old familiar refrain: "But our operation is different." Unfortunately, that has nearly always been true.

But recently, at the annual meeting of the American Transit Assn., Chairman Paul Dittmar of ATA's Standard Pars Committee made public for the first time a challenging solution in the form of Transit Pars. Designed *exclusively* for the use of urban or local bus operations, the idea, nonetheless, could have application, with necessary variations, for all other forms of highway transportation.

What Transit Pars Are

TRANSIT Pars, as now contemplated, are based solely on the ratio between major expense allocations and gross operating revenues. The basic plan is shown in the accompanying table. Here's how the figures work out:

At the left are listed the various expenditure items under the major headings of Personnel (B through G), Cost of Goods and Services Purchased (H). Cost of Accidents (I), Cost of Depreciation (K), and Cost of Government, including all direct taxes (L). At the right are four columns showing the overall or company Pars (CP) and three subdivisions—transportation or operation (TR), maintenance and repair (MR), and general office expense (GO).

It will be noted that in the case of these local bus operators, 50 per cent of gross revenue is allotted to personnel, 18 per cent to cost of goods purchased, 4 per cent to accidents, 8 per cent to depreciation and 12 per cent to taxes. This leaves the basic goal of 8 per cent for net operating profit.

. . . and What They Are Not

IN any discussion of the Pars it is as important to understand what Pars are *not* as well as what they are.

TRANSIT PARS GUIDE SHEET

[DEPARTMENTAL PARS]

FACTOR	CP COMPANY PARS		TR TRANSPORTATION		MR MAINTENANCE, REPAIR AND SERVICING		GO GENERAL OFFICE	
	Par	Our Actual Ratio	Par	Our Actual Ratio	Par	Our Actual Ratio	Par	Our Actual Ratio
A. GROSS OPERATING REVENUE	100.00%	100.00%	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
COST OF PERSONNEL								
B. Executive, Administrative, Supervisory	6.00%		3.20%		1.30%		1.50%	
C. Secretarial, Clerical, Office, Etc.	3.00%		1.30%		.50%		1.20%	
D. Maintenance, Repair, Servicing	9.00%		xxxxxx		9.00%		xxxxxx	
E. Total Nonoperating Personnel	18.00%		4.50%		10.80%		2.70%	
F. Operators	32.00%		32.00%		xxxxxx		xxxxxx	
G. TOTAL PERSONNEL COSTS	50.00%		36.50%		10.80%		2.70%	
H. COST OF GOODS AND SERVICES PURCHASED	18.00%		2.30%		14.20%		1.50%	
I. COST OF ACCIDENTS	4.00%		3.80%		.20%		-------	
J. TOTAL CONTROLLABLE COSTS	72.00%		42.60%		25.20%		4.20%	
K. COST OF DEPRECIATION	8.00%							
L. COST OF GOVERNMENT— Direct Taxes Only	4.00%							
Federal Income Taxes	8.00%							
M. TOTAL OPERATING COSTS	92.00%							
N. NET OPERATING PROFIT—available for debt service charges, retirement of debt, dividends, improvements and additions to properties, and contingencies	8.00%							

First, they are *not* final. Additional work goes on.

Second, Transit Pars are *not* an average of past experience by a great number of transit bus operators or even those of a selected control group. Instead they are an ideal, a goal very carefully set up through conferences between top management, comptroller, operating and maintenance groups. They represent the combined calculations of these groups on "What would constitute an attainable par," and also how expenditures should be apportioned in order to end up with a minimum net operating profit of 8 per cent. This was established, for the present, as a fair minimum return for any operation.

Third, Transit Pars are *not* a comparison of operating practices. In the early stages of their deliberations, the Standard Pars committee considered such standards of comparison as the following (Note, we have interpolated with similar comparisons among truck operators):

Passengers (or tons) carried per thousand mile operated.

Seat (or ton) miles operated per driver hour.

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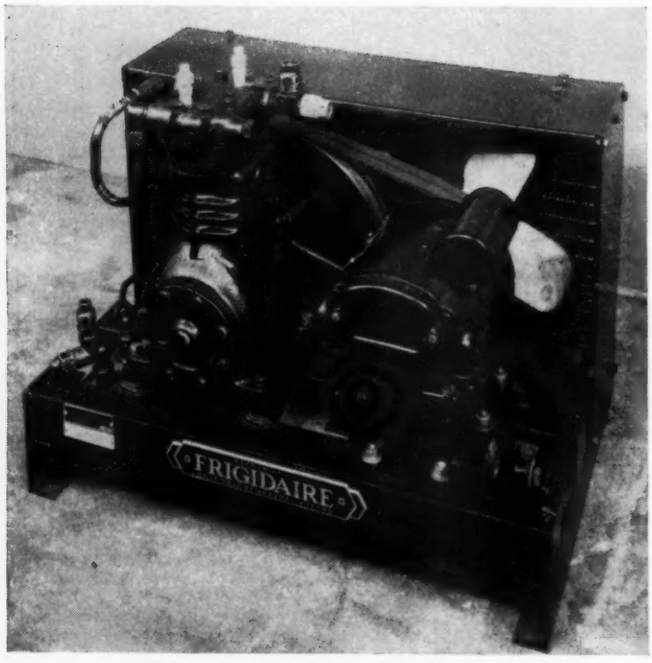
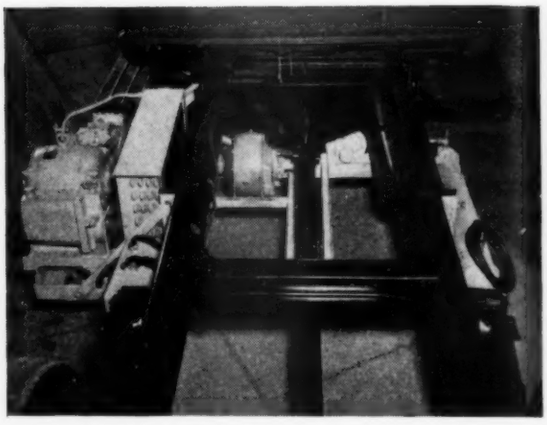
Selecting Reefer Eq

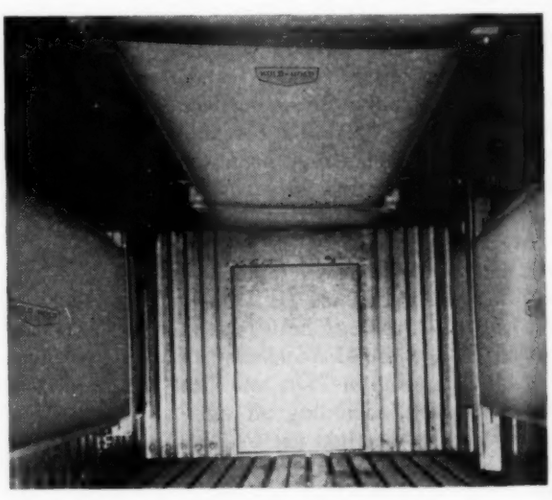


Condenser-compressor units like this "pull" the heat from a refrigerant, supply the "cold" for most mechanical systems



Gasoline engines, electric motors or power take-offs like this operate these mechanical reefer systems

One method uses the cooled refrigerant to freeze a "eutectic" solution in hold-over plates like these



Here's What's Available

Mechanical units, hold-over plates, dry ice bunkers or wet ice crushers—this brief market guide describes the major types, will help you analyze your needs for the coming season

WHAT DO I need in the way of refrigerating equipment as a common carrier of frozen foods, as a private carrier of perishable cargo, as a retail delivery fleet carrying milk or ice cream—with huge trailers—or with lightweight vehicles?

That's the $64 question that many a fleetman will be asking as he gets ready for this year's peak season. Trying to answer it in a single article would be foolhardy, but it is possible to show what equipment is available from leading manufacturers and the characteristics of this equipment. From there on out it's a problem for the individual fleet.

Equipment for keeping freight cold in transit, whether frozen stiff at below zero temperatures or only chilled at 44 deg, is usually divided as follows:

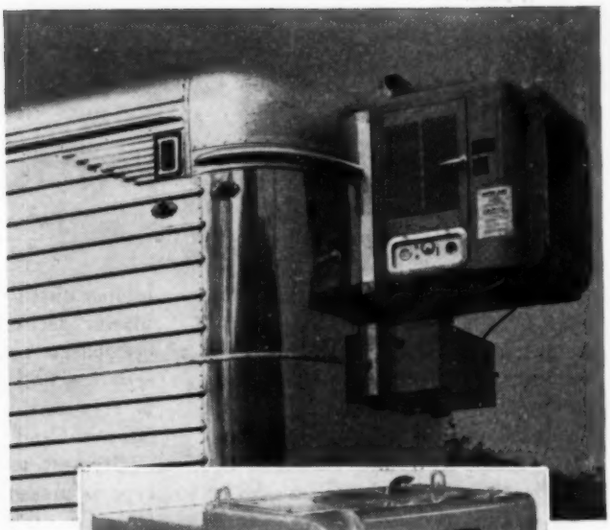
1. Mechanical.
   a. Condenser-compressor units.
   b. Cooling coils and blowers.
   c. Hold-over plates.
   d. Power sources and power take-offs.
2. Dry or wet ice bunkers.
3. Crushed wet ice.

Now, just what will each type do, what specifically are the advantages of each, and where can they be obtained? Here are some condensed, quick facts concerning each type to guide you in your selection.

Equipment

Second system runs the refrigerant through a cooling coil and fan unit mounted inside to rear of condenser

Condenser-compressor unit can be mounted on lower corner of body, pumping refrigerant to cooling coils or plates



Biggest cooling coil and fan units are for trailer use, usually mounted in the nose

Condenser-Compressor Units

HEART of any mechanical refrigerating system is the condenser-compressor unit. Like the common household refrigerator, it operates by condensing and compressing the heat out of a refrigerant, pumping it through the system—either a cooling coil and blower unit or hold-over plates—where it absorbs heat, and returns it to the condenser-compressor where the cycle begins again. This unit can be obtained separately from such companies as Frigidaire or Lehigh Mfg. Co. or as part of a cooling coil unit or hold-over plate installation.

Cooling Coils and Blowers

ONE of the more popular types of mechanical units is the cooling coil and blower combination. These are the mechanical units usually seen on over-the-road semi-trailers, but they are also widely used for local delivery work. Usual arrangement is to have the power supply and condenser-compressor unit mounted together outside the front, upper end of the truck or trailer body. Directly behind this grouping on the inside of the body is mounted a housing containing the cooling coil and one or more blower fans for circulating the cold air. Most manufacturers have models that can also be used for cargo heating as well as cooling as well as with and without automatic temperature control through the use of a body mounted thermostat. Effective temperature range for these units is usually from 10 degrees below zero to 60 deg above.

Typical semi-trailer unit of this

(TURN TO NEXT PAGE, PLEASE)

Selecting Reefer Equipment

Continued from Page 71

type is that made by Carrier Corp. One of the larger of its type, it weighs, less gasoline, 1224 lb, divided as follows: (1) engine and condenser-compressor unit with supporting brackets and battery box—820 lb, (2) cooling coil and blowers—230 lb, (3) two storage batteries—98 lb, (4) engine radiator water—16 lb, (5) engine lubricating oil—7 lb, (6) compressor lubricating oil—5 lb, (7) refrigerant—18 lb, and (8) gasoline tank and brackets—30 lb.

Incidentally, these eight points are a good check list for comparing the component parts of the various makes and models of this type unit.

Carrier's unit operates continually at 1800 rpm or 1200 rpm as the body temperature warrants, does not start and stop as do most units to maintain temperatures. The cooling coil and blower section and the engine and condenser - compressor section are separate, and only a 2½ by 9-in. hole is required in the trailer wall for electrical and refrigerant connections.

Greatest range of models of this type is made by U. S. Thermo Control Co. Presently, there are 12 *Thermo King* units ranging from the Model R designs, comparable to the Carrier unit described above, through the medium weight Model D's and light weight Model K's, to the Model E's designed for straight truck use alone. Model K units, for either straight trucks or semi-trailers, weigh as little as 705 lb not including gasoline or gasoline tank. *Thermo King* units include the blowers, cooling coil, engine and condenser-compressor all in one piece. They mount through a hole in the forward end of the trailer and are fastened with only four bolts, facilitating removal and transfer to other bodies.

One piece, upper, forward wall-mounted trailer units are also made by American Mfg. Co. under the name *Arctic Traveler*. The company's units for straight trucks may have the condenser - compressor section mounted at the lower, left side of the body with the cooling coil and blower section mounted in the usual manner inside the forward, upper end of the body.

Two piece trailer units constructed so that the condenser-compressor and engine section may be mounted under the trailer frame are available from Tru Kooler, Inc. Capacities and other features of these units are similar to the Carrier, *Thermo King* and *Arctic Traveler* trailer models.

Strictly for straight trucks with bodies up to 18 ft long are the two models made by Dromgold and Glenn Division, Union Asbestos and Rubber Co. These one piece, *Coldmobile*

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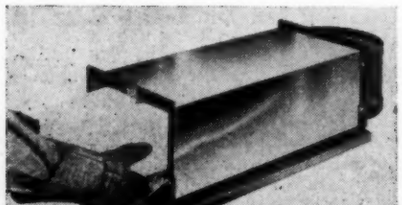
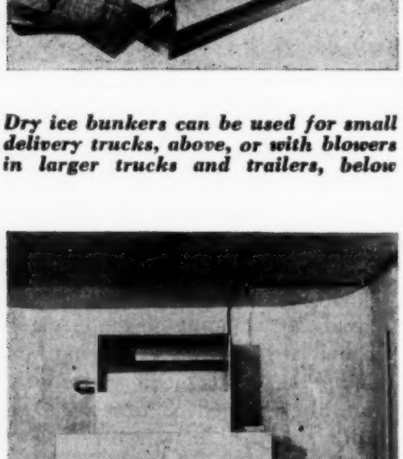




Dry ice bunkers can be used for small delivery trucks, above, or with blowers in larger trucks and trailers, below

Plate equipped trucks often have shop mounted reefer plants, "ice" up at night with hose lines like this plant

"Weldowns" for Wood Floors

Cut Installation Time

Weldowns are nailed to side of board and entire floor is assembled in an up-side-down position

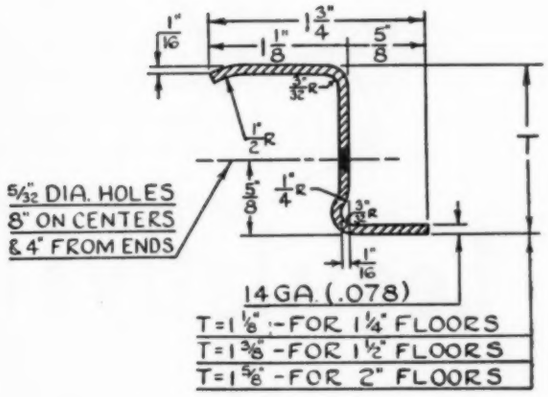


Fig. 1. Weldown cross-section shows shape and dimensions for various floor board thicknesses

Welding floor boards in place is possible with new Z-shaped steel channels running lengthwise between each board

A NEW process for laying wood body flooring that greatly reduces installation time and also increases strength and durability has been developed by the Parish Pressed Steel Co. The process is made possible through the use of the company's patented "Weldown" Z-shaped steel strips which run lengthwise between each board overlapping at top and bottom. The entire floor is laid out in the prescribed manner and the "Weldowns" are then welded to the cross sills.

An interesting side light of the development is the fact that in the assembly of modern steel stake bodies from prefabricated parts it often takes longer to lay the wood floor than to assemble the rest of the body. That was the problem bothering Parish's well-known trouble shooter, Nelson Cole. If we could only weld the wood floors, he reasoned, we could save many hours. "Weldowns" turned out to be the answer.

Already tested in a number of body shops, it has been found that two men without special equipment can lay a complete 14 x 8 ft floor in 1¼ hours, a total of 2½ man-hours. With proper jigs this time can be cut considerably. We'll let readers judge their own time savings.

The strips are available for all standard body lengths and in widths to fit the three standard floor thicknesses—1¼ in., 1½ in. and 2 in. Fig. 1 shows the cross section design. Figs. 2 and 3 (page 126) show how the strips are nailed to the *side* of the floor plank and also the optional arrangement to provide mounting either flush with the floor or raised to form skid strips. Either way the "Weldowns" provide substantial protection to the floor surface.

Obviously the steel stripping offers a considerable increase in strength because of the effective inertia depth of the steel segment. The "Weldown" construction does not pull up with impacts normal to frequent usage, and because they are fastened to the edge of the flooring, no screw heads or sharp edges protrude to tear cartons and packages.

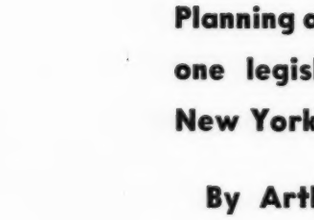
Another advantage is the fact that there is extreme flexibility between floor joints, while flooring is still held tight. The overlapping nature of this construction permits the floor boards to be shuffled into place like shingles in a roof without clamping or pulling. This joint design actually makes it possible to lay a laterally warped board in between two straight boards. With 11 or 12 joints per average floor and a plus or minus variation of approximately 3/16 in. on each joint, the entire group of boards can be shifted nearly 2 in. at the time the last board is laid.

(TURN TO PAGE 126, PLEASE)

Legislative Outlook for 1953

Planning and paying for adequate highways is the number one legislative subject this year. Retaliation against New York and Idaho mileage taxes threatens reciprocity

By Arthur C. Butler, Director, National Highway Users Conference



AMERICA'S NEEDS for more adequate roads, plus the acceleration of the nationwide Project Adequate Roads, or PAR, movement foreshadows a new era in highway improvement. This may result in a considerable amount of highway transportation legislation in 1953 when 44 state legislatures will meet in regular sessions.

There are strong indications that efforts will be made to modernize outmoded highway administrative laws and in some states there will be proposals to reorganize and strengthen state highway departments. In other states the sufficiency rating method of assigning numerical values to sections of highways may be incorporated ino the statutes to assure a project-by-project listing of needed road improvements on a priority basis.

According to current reports highway financing will be a major issue in the majority of the 44 state legislatures. It seems apparent that the people are determined to do something about correcting the critical deficiencies at many points on the nation's roads and streets. The great interest in the Project Adequate Roads reflects this determination.

Many states have already launched substantial highway improvement programs while others are in the process of developing plans.

In addition to motor vehicle tax increase proposals to finance highway programs there are advance indications that bond issues will be considered in several states. Bonds have been a major source of highway revenues in quite a few states in recent years.

Agitation for toll roads has spread to many states in virtually all parts of the country. It is interesting to note that in some of the states where toll roads have been built millions of

dollars of highway use tax monies have been spent for non-highway purposes.

In order to escape existing traffic congestion motor vehicle owners in many places are obliged to pay added toll costs for high type facilities. This is, of course, contrary to the views of most highway user groups who contend that all road facilities should be constructed and maintained at a level of improvement sufficiently high to accommodate the traffic without recourse to the imposition of toll charges.

In addition to those states that have now constructed or authorized construction of toll roads, this type of legislation is expected to be considered in at least 12 more states in 1953.

Taxes, Taxes, Taxes

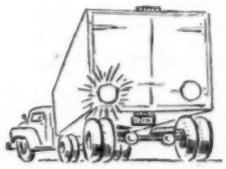
REPORTS reaching NHUC from the states indicate that there will be numerous proposals to increase motor fuel taxes, registration fees and to impose mileage and other special taxes on commercial motor vehicle owners.

There have been pronouncements that when the new Administration takes over in Washington it will review the Federal tax structure. Only a few months ago the Governors' Conference meeting at Houston, Texas, urged that the Federal Government withdraw from the field of gasoline taxation "as soon as may be consistent with the needs of national defense." Since then, similar demands have been made by the General Assembly of the States sponsored by the Council of State Governments and by the Western States Governors' Conference.

It has been pointed out that if the Federal Government did withdrew from the field of automotive taxation this would provide an opportunity for states to increase their highway revenues without adding to the total tax burden on motor vehicle owners.

The New York and Idaho mileage taxes threaten a complete breakdown of reciprocity all over the country. Vermont and Virginia already have retaliated and the states surrounding New York have considered similar mileage taxes. Georgia has threatened to cancel reciprocity with New York. The enactment of mileage taxes in additional states would almost certainly endanger practically all reciprocity for commercial vehicles. Yet, there are numerous reports of vigorous support for mileage taxes in many states this year.

In any appraisal of sources of additional highway funds, motor fuel taxes are among the first to be considered. This is partly because of the ease of collection and the comparatively very low cost (to the state) of administration. According to reports from usually reliable sources to the National Highway Users Conference, increased gasoline, diesel fuel taxes, or both, may be considered in at least 20 states.



Sizes, Weights and Safety

SIZE and weight bills are reported certain to receive consideration in numerous states and particularly, increased penalties for violation of weight limits. In 1951, several states enacted rather drastic fines. Similar penalties will be proposed in more than a dozen additional states in 1953.

Reliable information is that at least 15 states will consider changes in size and weight limits, and half a dozen are likely to consider proposals for reduction of existing axle or gross weight limits.

The Conference has completed a work-book for Act IV of the Uniform Vehicle Code — The Motor Vehicle Safety Responsibility Act, as revised by the National Committee on Uniform Traffic Laws and Ordinances. This Act, like the other four, has been distributed to state officials, legislators, and highway user groups. Progress in the adoption of uniform laws is most encouraging. Within four years, at least 20 states have adopted major portions of Act V and today all states and the District of Columbia have adopted parts of the Uniform Vehicle Code. With the assistance of state affiliates, the Conference has distributed more than 300 work-books for making comparisons of existing state laws with the Code. Through the use of these books, comparisons of one or more acts of the Code have been completed in 30 states and are under way in a dozen others. Bills to amend motor vehicle laws to conform more closely with the Uniform Code will be considered in at least 15 states, according to the best available information.

Anti-Diversion

ONE substantial contribution to the solution of the highway finance problem is the adoption of amendments to state constitutions requiring that all special highway use taxes be used solely for highway purposes.

Last November the voters of three more states adopted amendments to their constitutions that will prohibit diversion of highway user funds to other than highway purposes (Alabama, Arizona and Georgia). This now makes a total of 24 states that have provided this protection. Proposals for adequate roads amendments are expected in at least a dozen states in '53.

The foregoing legislative outlook for 1953 is based upon reports, principally from representatives of state highway user groups and other reliable sources but it must be remembered legislative situations are generally fluid. Individuals or groups announcing their intention to sponsor particular legislation may change their program before or after the legislature convenes, while other unexpected legislation may crop up from a number of unpredictable sources.

Safety Winners Tip Off Success Secrets

When 21 fleets came up with trophies won in ATA's National Safety Contest, CCJ rounded up the winners to see what information they could impart to others in the way of safety tips. Here are excerpts from their reports. Of course no one realizes better than these men that there is no ideal formula for any program . . . and no short cut to safety. Highlights, however, of these respective programs may well be adapted to other fleets and certainly point one way towards cutting high accident ratios.

Call on Driver, Mechanic, Management

F. J. Hestand
Columbia Lessors, Inc.

IN setting up our safety program we conferred with several insurance companies and their safety engineers, read text books concerning safety and then junked 90 per cent of the whole deal because entirely too much was based on text book theory. We then set about to establish a workable safety program based entirely on practical application and this in our estimation requires the combined cooperation of the drivers of our leased equipment, our entire maintenance personnel and top management of both Columbia Lessors and our respective lessees.

Roice E. Jones, J. E. Hestand, Raymond Gorman

It is our firm opinion that a practical and workable safety program must include all three factors, namely driver, maintenance department and top management cooperation. It is the top management who ignites the spark; it is the maintenance department who keeps the spark alive, and the drivers do the rest.

Our safety program has paid off from an insurance cost saving standpoint because our loss ratio of 285 per cent in 1948 dropped to a loss ratio in 1951 of 11 per cent. This, of course, does not take into consideration damage to our equipment but because of our safety program we have been able to effect a great reduction in accident expense to our equipment.

Safety IS First

Lloyd Erxleben
Bekins Van & Storage Co.

WE believe that any success we may have, as far as safety is concerned, can be attributed to two very simple yet fundamental facts.

First—Our "Bekins Creed" wherein we are pledged to treat our employees as individuals. We believe that safety is the product of quality supervision, and not necessarily an aim in itself.

Second—Our safety policy which is simply "Safety *is* First." We do not believe that it is possible to have a safe operation if safety rates second, third, or even fourth place in consideration when operating a fleet of trucks. A fleet can have the finest safety program in the world, but it simply will not produce results until the front-line supervision, the dispatcher, the shop foreman and the like are impressed with the fact that they are first to consider safety.

We believe that the setting up of a goal for the men to shoot at has helped tremendously in renewing interest in our incentive plan, and consequently in a safety program. *As a result we have reduced our insurance cost 65 per cent from 1947.*

A Continuous Program Works

Frank W. Moore
Mistletoe Express Service, Inc.

THE Mistletoe management is a firm believer in the fact that a safety program to be successful must be carried on continuously. Few safety meetings are held, but the safety director keeps in close contact with the drivers by seeing and talking with them daily. Meetings are held only when there is a problem to be solved which requires the cooperative thinking of all drivers, or when a safety award is won. The safety director acts in an advisory capacity and shares the responsibility in safety policy matters with the management and department heads.

Over the years, management has found it takes team work between the maintenance department and the drivers to make a safe economical operation. In addition to making a "trouble report" at the end of each run, the driver is invited to make suggestions to the maintenance superintendent and the mechanics which are at all times welcomed. *The cooperation of drivers and mechanics, plus a good preventive maintenance program, shows why Mistletoe has never had an accident due to mechanical failure.*

Better Attitudes Point Up Safety

Victor Jones
Lee & Eastes, Inc.

IT was felt at the inception of the Safety Program at Lee & Eastes in 1946 that the development of the proper working attitude was of most importance. Therefore, management, through a series of meetings, which included everyone in the organization, made it clear that the "safe way" was the way to do the job.

The safety director was placed directly under top management and made responsible to them. Drivers, mechanics and other personnel could easily see that the prevention of accidents was considered important and was to continue to be so evaluated.

An important phase of the Lee & Eastes effort is the emphasis placed on supervision of the actual job of driving. Full time driver supervisors and trainers spend their time with the driver personnel. They evaluate performance, correct errors, make suggestions of improvement and impose discipline when necessary.

In this connection, the safety director and road supervisors have authority to hold both equipment and drivers from service, if necessary, and their authority to discipline drivers for driving errors is complete.

Since 1946 Lee & Eastes has evaluated its safety program by determining the ratio between actual cost of accidents and the Company's gross revenue. This ratio had dropped from 2.34 in 1946 to .48 in 1951. *This represents a worthwhile saving in dollars and more important, fewer injuries and heartaches.*

Good Vehicles—Requisite of Safety

Don Roberts
Carr Consolidated Biscuit Co.

WE believe that, regardless of the ability of the driver, he must first have safe equipment to operate. We, therefore, put emphasis on preventative maintenance. Vehicles that do not meet our rigid safety requirements are taken out of service until all repairs and adjustments are completed and the equipment is in as near a perfect condition as possible.

In addition to the standard periodic inspections and servicing given each piece of equipment, our drivers are required to submit a detailed "Failures Report" at the end of each trip. This report is used by the mechanic as a guide for making repairs and adjustments before the equipment is again scheduled for service.

A second major point in our safety program is the emphasis placed on avoiding accident causing situations. A driver knows that an accident in which he is a contributory cause is just as expensive as one in which he is the direct cause.

By analysis of all sorts of accident causing situations, we have developed a "defensive driving" technique by our drivers that minimizes involvement in such situations. Through group discussions, illustrated accident reports, etc., our drivers have a full realization of the effectiveness of "defensive driving."

It's "A Way of Driving"

Dan Dugan
Dan Dugan Oil Transport Co.

THE program has paid off very adequately. I think perhaps one single line can explain how well. Last year our insurance cost was $65.00 per unit, some $6500 for the hundred units we operate, covering about 12,000,000 miles of driving exposure. As most readers will realize, this cost is less than the cost of insuring the average car. The savings have not been limited to the insurance cost, but have extended themselves into savings on equipment, tires, and gasoline as well.

Good Morale Makes for Low Accident Ratio

John Harmon Vickers
Carolina Delivery Service Co.

IF we have a "secret" in our safety program, it is the same secret that keeps our claims low, keeps our schedules fast, without exceeding the speed limit, and generally keeps our operation efficient. The fundamental principle in all of this is that employer-employee relationships are kept on the highest possible level. Those of us who work for the company feel that we have more than just a job; we feel that we have a good way of making a living. It has always been the self-imposed duty of each driver to see to it that our customers are pleased with our service, that our operation is efficient, and that our company has the best possible safety record. We feel that each success and accomplishment of the company is a personal success and accomplishment, and that as the company as a whole prospers, the individuals who make up the company will prosper.

The Carolina Delivery Service is operated on the basic principle that no trucking company can be any better than its truck drivers, and the company is confident that it has the best truck drivers that it is possible to hire or train.

"Sights on Safety" Pays Dividends

C. H. Painter
Navajo Freight Lines, Inc.

TWO years ago we set up a comprehensive safety program using "Sights on Safety." It has been highly-successful. We achieve cooperation between management, mechanics and drivers because *the whole program is built on enthusiasm, and most people find it easy to cooperate in furthering an enthusiastic program.*

Under our master driver program each new driver makes from one to three trips with a master driver selected by management because of his superior driving ability and safety record. On these trips the master driver tests the new driver's knowledge of local, state and federal regulations under which we operate. On recommendation of the master driver he then takes the wheel on his student trip accompanied by a senior driver. After being approved by the senior driver he awaits permanent assignment.

(TURN TO NEXT PAGE, PLEASE)

Safety Winners Tip Off Secrets

Continued from Page 77

It's the "Esprit de Corps"

John W. MacDonald
Pacific Highway Transport

PACIFIC Highway Transport's Safety Program is based upon (A) Selection, (B) Training, (C) Supervision and (D) Attitude Development.

These four essentials are necessary in any successful safety program, but back of that a company must *have the proper "esprit de corps" and cooperation between departments, management and the drivers.*

Each P.H.T. employee is made to feel that the safety program is his program. Its success depends upon his efforts, and he is given an active part in it.

Emphasis is also put on team play and competition among stations. Each station competes in an annual safety contest, and each one designates a driver to act as safety captain for them. He is the lead man in safety, and acts as personal representative of the safety director with authority from the station manager to make needed improvements and corrections.

Driver Pride Helps Attain Goals

J. F. Roderick
Southern States Cooperative, Inc.

OUR drivers are very proud of the record they have made and are very interested in keeping it. In order to help them we give them complete charge of the vehicle and do not question them on any repairs they have done or on any new type of safety equipment they might buy. In order to prevent them from going too far with the cost, each month they are given an operating statement and a friendly rivalry is promoted to see who can keep their costs the lowest.

We do not use any safety patrols or put our program in any one man's hands. We leave the entire program in the hands of our drivers and as safety conscious as the men are they can get pretty rough on a man that has an accident. I sit in on the sessions when the committee meets, but only to take notes and keep records. I have never had to interfere because I thought they were being too easy.

Our record has resulted in a very substantial reduction in our insurance premiums so we figure that every dollar we spend on safety is well invested.

Good Supervision Is One Answer

B. J. Wilson
Garrett Freight Lines, Inc.

WE have at present five driver supervisors throughout the territory, with complete authority over the hiring and discharge of all driver personnel. The driver supervisors are responsible to management direct through the safety director for all personnel under their supervision. The decision of the driver supervisor with respect to the hire and discharge is subject only to correction by the safety director. The driver supervisors, working with the safety director, are entirely responsible for the setting up of policy matters and are responsible for the carrying out of the policies agreed upon. It is our feeling that by making a driver supervisor an integral part of the policy-making personnel greater success is to be had from the enforcement by the supervisors.

Further, *we sincerely attempt to breakdown the barrier which ordinarily exists between supervisor or management and the employee through personal contacts* and inviting the drivers to give to management their suggestions and comments concerning the safety program.

Cooperation is the Secret

Charles A. Davidson
Lemmon Transport Co.

COOPERATION is the secret *to any successful operation.* I attempt to prove *to the maintenance department* that proper preventive maintenance will not only reduce the probability of an accident, but will reduce the number of major overhauls. *To the drivers,* I attempt to prove whereby accident free driving increases their pay not only through safety bonuses but through their monthly check. When a drivers unit is out of service due to repair from an accident, the driver is not working regularly; therefore there is a reduction in his monthly pay. *To the management,* it is necessary to prove that safety of operation not only saves them dollars and cents, by reduced insurance rates and repair bills, but is excellent from a public relation point of view.

This program has definitely paid off from a cost-saving standpoint. In 1950 the company insurance ratio, that is, insurance cost over premium was 114.1 per cent, in 1951 it was 57.7 per cent, and for the first eight months of this year, 50.3 per cent.

Drivers Know "Safety is a Must"

Harry E. Grimes
Liquid Fuel Transport Service

ALL users of the public highways should be on the alert and consider safety first as a "must" if they are to continue driving vehicles.

The successes we have had in winning the ATA *Safety Awards can be credited to the men who drive the trucks,* and who have done a fine job of driving.

In our company special effort is made to choose drivers who have had experience with a good record; we choose men of good character, personality and integrity. It is a rule of our company that all drivers refrain from the use of alcoholic beverages, liquor, narcotics, or habit forming drugs both on and off duty.

Another point considered very important is that equipment be kept in good running order at all times. We have a program in checking our equipment and keeping it up at all times, and we never have a major breakdown on the highway.

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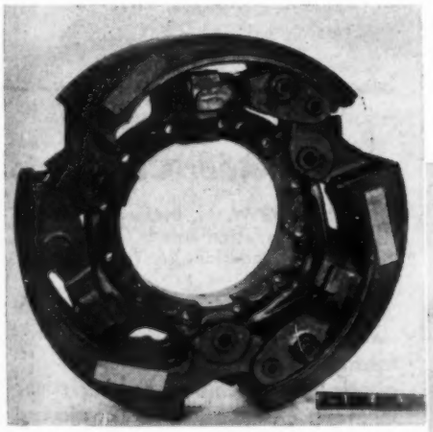
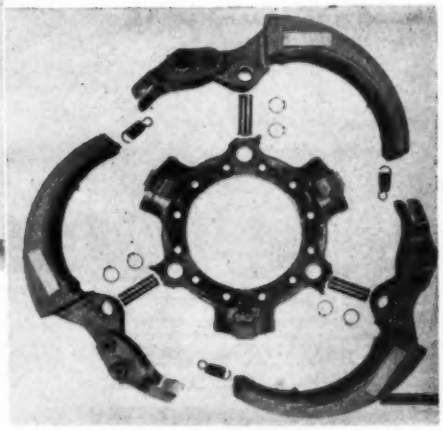
Three-Shoe Brake For Air or Hydraulic Actuation

Self-energizing, compensating self-contained design operates on lower pressures, uses interchangeable parts, eliminates need for plumbing



Exploded view shows simple design and construction, similarity of parts. Lines and accessories are eliminated

Fawick assembly ready for installation. Individual stepped brake cylinders actuate shoes with lower line pressures



A HEAVY-DUTY brake system for air or hydraulic actuation has been introduced by the Fawick Brake Div., Federal-Fawick Corp., Detroit, Mich. The new system is being produced on an experimental basis for selected military vehicles and for specific civilian applications, but plans are under way to provide suitable manufacturing facilities some time in the near future.

The Fawick brake features a basic self-energizing three-shoe design with a stepped brake cylinder for actuating each shoe. Individual shoes are linked to the central spider and can be removed or installed by removing three pins. The brake combines both air and hydraulic fluid actuation as independent functions built into the mechanism and arranged for application either independently or simultaneously at the will of the driver. Consequently, the Fawick system can be employed, as one example, to operate as an air brake for normal service use; and employ hydraulic for emergency stops. Regardless of normal requirements, however, both air and hydraulic applications can be made simultaneously to effect a quick emergency stop.

The central spider not only serves as the backbone for the brake assembly, it also houses the brake cylinders and incorporates independent passages for the individual fluid lines to each cylinder for piston actuation, with direct application of fluid pressures to the individuad brake cylinders, all plumbing lines and accessories such as air diaphragms or roto chambers, slack adjusters, camshafts and pushrods, are eliminated.

Another claim made for this brake is that its installation will eliminate the need for a separate emergency or parking brake. In fact, special arrangements have been devised to permit locking of the wheel brakes on the vehicle or train and even on a trailer while uncoupled.

One of the important characteristics claimed for the brake system is that it is said to operate at considerably lower line pressures, lower than conventional either for hydraulic or air brakes. Fluid pressure is applied on the stepped piston—one line being fed to the face of the small diameter, the other to the annulus on the larger diameter at the upper end. Each of the stepped diameters of the brake

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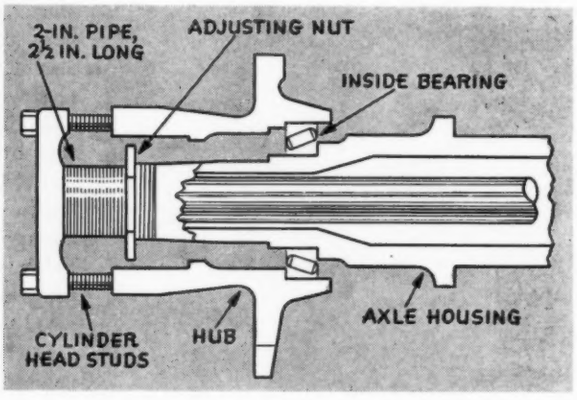
Shop Hints

Here are some swell time savers for fleet shops. Let us have your ideas for new tools or short cuts to service. We'll pay $10 and $25 for good ones.

$25

To Remove Stuck Rear Hub

by Raymond Owen
Shop Foreman, C. B. Wood Motor Co., Inc.
Osceola, Ark.



Sometimes the inside bearing on a Ford full floating axle is stuck or frozen making it difficult to remove the rear hub. Here's a way to remove the hub when this happens. First, remove the axle shaft and the rear hub outside bearing. Second, reinstall one outside bearing adjusting nut on the axle housing to prevent damage to the housing. Third, cut a length of 2 in. inside diameter pipe 2½ in. long. Fourth, install axle through this piece of pipe and replace axle in the axle housing. Fifth, remove two axle studs and replace them with Ford cylinder head studs. Sixth, push the axle drive flange over the cylinder head studs. Tightening the cylinder head studs should remove the stuck hub.

Putty Knife Makes Tool

By William Harvey Calvin
321 Sycamore St.
Mt. Carmel, Ill.

An old putty knife or handle equipped with a flexible steel blade can be used to remove bearing shells. The end of the blade is inserted between the motor block and the crank-

Portable Rack Keeps

By George C. Favinger
State Roads Commission
Easton, Md.

Before this rack was made it seemed that every time someone wanted to use a creeper it couldn't be located readily, or else, when the creeper wasn't needed, it was always in the way. Here's a creeper rack that answers both problems. You can always find a creeper when you want

Fuse Holder Cleaner is

By W. H. Buckley
Charleston Transit Co.
Charleston, W. Va.

Corroded fuse clips can be easily cleaned with this handy shop-made fuse holder cleaner. Merely take (1) a piece of an old 8-in. long round file, (2) a 3/16 by 3-in. cotter pin and (3) a 1/4-in. hex nut. Cut the file the length of the fuse and insert it through the eye of the cotter pin.

Pick-up Truck Made

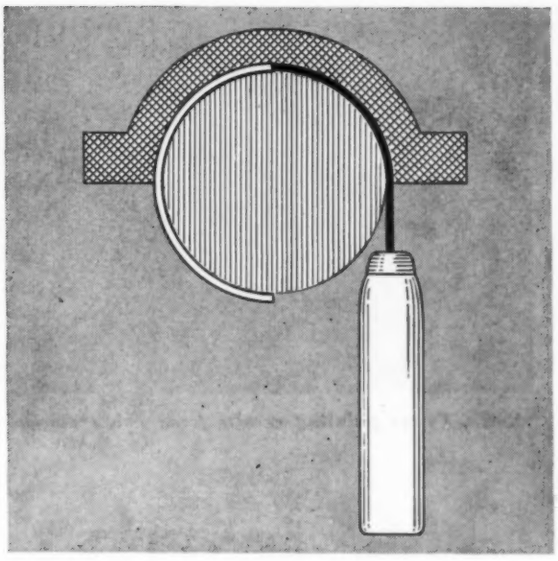
By H. J. Chambers
Oklahoma Natural Gas Co.
Oklahoma City, Okla.

Here's a way to double the useability of a 1/2-ton pickup truck. First, take a 2-in. lapwell pipe and install it as a rear bumper. The bumper pipe is bolted to each fender, and welded to each side of the frame with a piece of 2 by 2 by 1/4-in. angle iron. This sturdy bumper provides support and mounting base for a pintle type trailer hitch. A pipe

for Removing Sleeves

shaft. By pushing on the handle, the blade will follow around the crankshaft and push the bearing shell out on the other side where it may be removed by hand.

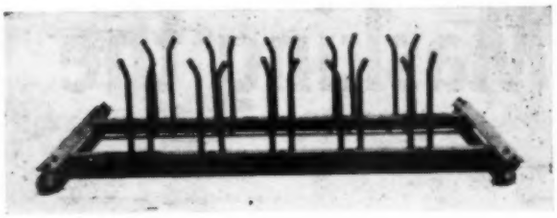
$10



Creepers Available

one and, when you've finished using it, the rack provides a place to put it. The frame is made of 1½ by ⅛-in. angle iron and the supporting bars are made of ½-in. round rod approximately 12-in. long. Swivel casters under the frame make the rack portable.

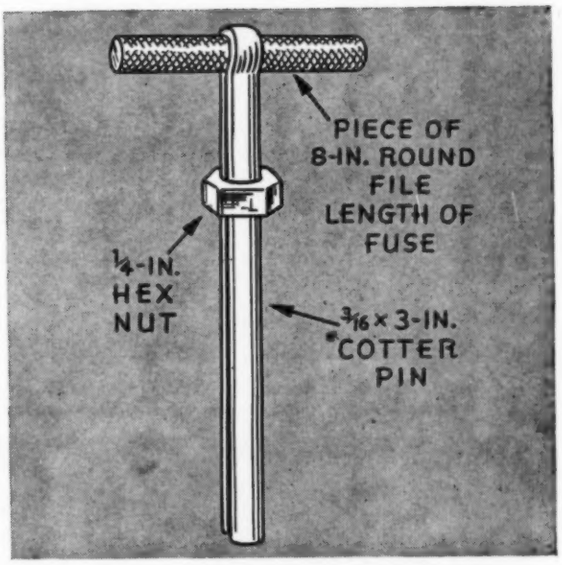
$10



Made from Round File

Slip the hex nut over the shaft of the cotter pin and drive it up tight to hold the piece of file from slipping. Using the shank of the cotter pin as a handle insert the file as you would a fuse in the fuse holder and turn it backward and forward in a semicircle to clean the contacts.

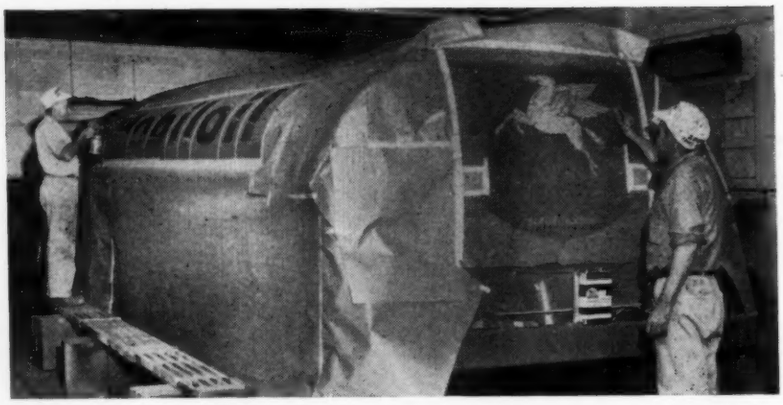
$10



More Serviceable

vise and two pipe carriers are mounted on the right side of the body. The vise is mounted at the rear, with one support bracket just to the rear of the cab and the other on the front fender. A shop-made metal tool box mounted back of the cab completes the shop-added extras. Total cost was $135 but these additions are worth it.

$10

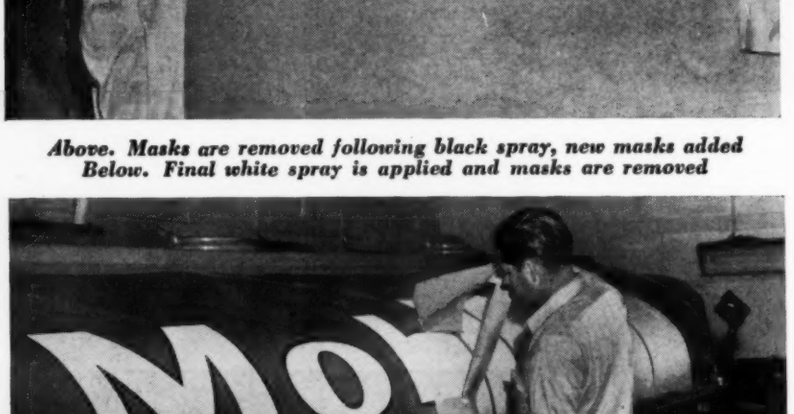


Above. Faster painting results from using masks, spraying letters, design

Lettering templates cut spraying time per vehicle by one day, reduce painting costs by 20 per cent for petroleum fleet

Masking the Mobilgas "Flying Hoss"

Above. Masks are removed following black spray, new masks added Below. Final white spray is applied and masks are removed



By Calvin T. Thomas
Manager, Automotive Equipment
General Petroleum Corp.

WE have reduced the cost of our vehicle painting program by 20 per cent by using templates or masking stencils for lettering and for the "Flying Hoss" symbol on all our units. Using a spray method to apply paint for the overall finish and for the distinctive design we have found that we obtain long-lasting jobs which look like custom work, using an ordinary paint shop without skilled labor, and can get the vehicles on the road a day sooner than with other methods. With more than 2000 vehicles in our combined company, agent and distributor fleets, this amounts to a considerable cost saving.

We started experiments with letter templates or masks for spray-on letters being offered by the C. O. Dicks Co. After a year's experimentation under varying shop and climatic conditions, we adopted their method of lettering, except for irregular or odd-sized lettering jobs that were so infrequent as not to justify stock quantities of paper masks. This adhesive will hold the merest detail on the stencils without "bleeding." This is particularly important in the repro-

(TURN TO PAGE 112, PLEASE)

Air Starters Save 70% in Electrical PM

. . . for 30-ton ore trucks operating on Mesabi Iron Range

FOLLOWING two years of rigorous field tests, one of the larger mining companies on the Mesabi Range is turning to air starting motors for its big 20 and 30-ton ore trucks. At the close of 1951, the company had 19 vehicles equipped with air starters in operation and another 40 on order. On the basis of experience to date, it is estimated that the adoption of air starters will effect a saving of about 70 per cent in electrical maintenance costs. Other advantages noted are: improved cold weather starting, greater ease in shop and field servicing, and simplification of electrical systems.

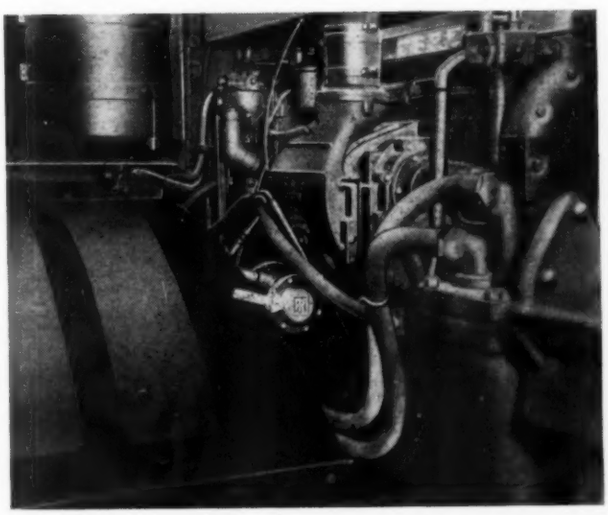
Cooperating in the application of air starting motors to heavy ore carriers were engineers of Ingersoll-Rand Co., the Euclid Road Machinery Co., and the mining company.

First step was taken in the Fall of 1949 when a Model 9BM Ingersoll-Rand air starting motor was installed on a 300-hp Model NHRS600 Cummins diesel powering a 22-ton rear-dump Euclid. This vane-type air motor develops from 7 hp with 75 lb air to 16 hp at 150 psi. Air is supplied by the truck's regular air brake compressor to an 11-cu ft auxiliary air receiver. Since this compressor idles most of the time anyway, there is ample capacity to serve the starting system, keeping the receiver at 150 psi.

Later on they installed a Model 20BM air starting motor to crank the 400-hp Model NVH1200 Cummins diesel on a 34-ton Euclid truck. This I-R air motor produces from 19 hp at 75 psi to 41 hp at 150 psi.

For two years the test units withstood the rough iron range service, cranking diesels under the difficult climatic conditions of Northern Minnesota with small expense for starter maintenance. The success of the

(TURN TO PAGE 110, PLEASE)



Air starter permits replacement of 12- and 24-volt systems with a 6-volt battery used only as an accumulator and standby. Below. Air receiver stores air from compressor for starting. Starting air system is independent of brake air system

STOP SHOP • • • Before They FIRES

FIRE losses in the United States in 1952 will run about six per cent higher than 1951, an estimated average of $65,000,000 a month, according to figures released by the National Bureau of Fire Underwriters. And, in the light of past records, 40 per cent of the companies destroyed by these fires will never resume business!

Your shop, docks and other buildings can be a part of that 65 million. And even if you're one of the lucky six out of 10 when a fire roars through your property, don't forget that the most comprehensive fire and business interruption insurance won't compensate you 100 per cent for the equipment, freight, records and time lost. Ask the man who has had a fire if you doubt it.

But fire losses can be kept at a minimum and insurance rates reduced through an effective fire prevention and control program—just as vehicle liability and cargo insurance rates are kept low through effective accident and claim prevention programs. And, like these programs, the time to start is before it happens. All that is needed is an adequate fire extinguishing system and thorough employee training.

Any comprehensive and effective fire prevention and control program has to include the following steps:

1—Survey the property, noting especially the danger spots where a fire is likely to break out.

2—Plan proper distribution of fire fighting equipment so it will be available where and when needed.

3—Select the right type and amount of equipment.

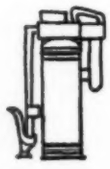
4—Educate employees in recognizing and reducing fire hazards and in using fire fighting equipment.

5—Make someone responsible for a continuing inspection and check-up on the equipment to keep it in operating condition at all times.

6—Resurvey the property and eliminate all needless hazards and reduce other danger spots to a minimum. This is also the *first* step in putting your program to work.

Before getting into a detailed discussion of how to put these six points to work, remember one thing: when a fire does break out call the municipal fire department immediately unless it is obvious *right away* that your equipment can handle it. Don't waste valuable time trying to fight it and then calling the fire department minutes too late. Put your equipment to work at once, but when there's the slightest doubt about its ability to completely put out the fire,

Standard charts, such as this one by Ansul Chemical Co., provide a basic outline on extinguisher selection, use and maintenance



	TYPE OF EXTINGUISHER	DRY CHEMICAL	CARBON DIOXIDE
2	SUITABILITY — CLASS A FIRES Wood, Cloth, Paper, Rubbish, Etc.	NO But will control small fires.	NO But will control small fires.
3	SUITABILITY — CLASS B FIRES Oil, Gasoline, Grease, Paint, Etc.	YES	YES
4	SUITABILITY — CLASS C FIRES Electrical Equipment	YES	YES
5	NOMINAL CAPACITIES AND CORRESPONDING UNDERWRITERS' LABORATORIES CLASSIFICATION. Letters designate class of fire. Numbers denote the number of extinguishers necessary to form one unit of First-Aid Hand Fire Protection.	4 lb. — B-2, C-2 20 lb. } B-1, C-1 30 lb. }	2 lb. B-1 2 lb.* 2½ lb. 2½ lb. 3½ lb. 4 lb. 5 lb. } B-2, C-2 7½ lb. 10 lb. } B-2, C-1 15 lb. 20 lb. 25 lb. } B-1, C-1 * Trigger Control
6	MAXIMUM HORIZONTAL RANGE	4 lb.—10 ft. to 12 ft. 20-B 30-B. 20 to 25 ft.	3 ft. to 8 ft.
7	APPROXIMATE WEIGHT, FULLY CHARGED	4 lb. — 10 lb. 20 lb. — 40 lb. 30 lb. — 55 lb.	2 lb.—11½ lb. 2½ lb.— 8½ to 13 lb. 3½ lb.—11½ lb. 4 lb.—20 lb. 5 lb.—16 to 22 lb. 7½ lb.—35 lb. 10 lb.—38 lb. 15 lb.—48 lb. 20 lb.—60 lb. 25 lb.—65 lb.
8	SUBJECT TO FREEZING	NO	NO
9	YEARLY INSPECTION	Weigh cartridge	Weigh
10	OPERATION	4 lb. 20 lb. 30 lb. } Push Lever Down	Turn Handwheel, Pull Trigger or Squeeze Handle
11	MEANS OF EXPELLING EXTINGUISHING AGENT	Carbon dioxide cartridge	Under pressure in extinguisher
12	COMPOSITION OF EXTINGUISHER CHARGE	Specially treated sodium bicarbonate in powdered form with important components for producing free-flow and water-repellancy.	Carbon dioxide

Start

Trained employees and adequate extinguishing equipment can prevent and control fires; keep your shop "in business"

call the fire department before it's too late.

Surveying the Property

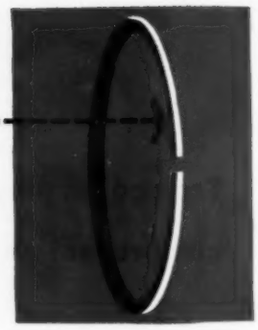
THE National Board of Fire Underwriters has established a classification for fires generally used by fire inspectors and insurance officials. Three things have to be together to cause a fire: fuel, oxygen and sufficient heat to bring the fuel to its ignition point. Fires that can be controlled by cooling and quenching (reducing the temperature below the ignition point) are termed Class A. These are fires that usually occur in loose, easily combustible materials such as wood, paper, cloth, etc. Class B fires are those likely to be spread by water and must be suffocated by reducing the oxygen supply. These are the fires that occur in flammable liquids—and there are plenty in the average bus and truck fleet shop—such as gasoline, oil and paints. Fires in electrical equipment, such as motors, wiring generators, etc., are called Class C and require a non-conducting extinguishing agent. Note lines 2, 3 and 4 on the chart.

By Ernest S. Forest
Assistant Editor

In surveying the property, note (1) what types of fires could break out in the various areas and (2) the

(TURN TO PAGE 132, PLEASE)

VAPORIZING LIQUID	FOAM	SODA AND ACID	WATER TYPE	LOADED STREAM	ANTI-FREEZE	PUMP TANK	WATER PAILS	1
NO But will control small fires.	YES	YES	YES	YES	YES	YES	YES	2
YES	YES	NO	NO	YES	NO	NO	NO	3
YES	NO	NO	NO	NO	NO	NO	NO	4
1 qt. 1¼ qt. 1½ qt. 2 qt. 2½ qt. } B-2, C-2 1 gal. 2 gal. 3 gal. } B-2, C-1	1¼ gal. 1½ gal. } A-2, B-2 2½ gal. 5 gal. } A-1, B-1	1¼ gal. 1½ gal. } A-2 2½ gal. A-1	2½ gal. A-1	1 gal. A-2, B-4 1¼ gal. 2½ gal. } A-1, B-2	2½ gal. A-1	2½ gal. 5 gal. } A-1	10 qt. 12 qt. 14 qt. } A-5 Pails nested in tanks } A-1	5
18 ft. to 30 ft.	30 ft. to 35 ft.	30 ft. to 40 ft.	30 ft. to 40 ft.	30 ft. to 40 ft.	30 ft. to 40 ft.	30 ft. to 40 ft.	5 ft. to 10 ft.	6
1 qt.— 7 lb. 1½ qt.— 9¼ lb. 2 qt.—16½ lb. 1 gal.—25 to 35 lb. 2 gal.—55 lb. 3 gal.—75 lb.	1¼ gal. 1½ gal. } 20 lb. to 25 lb. 2½ gal. — 35 lb. 5 gal. — 70 lb.	1¼ gal. 1½ gal. } 20 lb. to 25 lb. 2½ gal. — 35 lb.	2½ gal. — 35 lb.	1 gal. 1¼ gal. } 20 lb. to 25 lb. 2½ gal. — 40 lb.	2½ gal. — 40 lb.	2½ gal. — 40 lb. 5 gal. — 65 lb.		7
NO	YES	YES	YES	NO	NO	YES Unless calcium chloride solution is used.	YES Unless calcium chloride solution is used.	8
Partly Discharge, Weigh, Check Pressure	Discharge	Discharge	Weigh cartridge	Weigh cartridge	Weigh cartridge	Discharge (If only water)	Empty	9
Pump or Open Valve	Invert	Invert	Invert and bump on floor	Invert and bump on floor	Invert and bump on floor	Pump	Throw	10
Pump, air pressure, or carbon dioxide cartridge	Chemical reaction to form carbon dioxide	Chemical reaction to form carbon dioxide	Carbon dioxide cartridge	Carbon dioxide cartridge	Carbon dioxide cartridge or chemical reaction	Pump	Throw	11
Specially treated carbon tetrachloride with important components for lowering freezing point and avoiding corrosion.	Solutions of aluminum sulfate and sodium bicarbonate with foam stabilizing agent.	Sodium bicarbonate solution and sulfuric acid	Water	Solutions of potassium carbonate and special salts.	Solutions of calcium chloride, or of potassium carbonate and special salts.	Water or calcium chloride solution	Water or calcium chloride solution	12

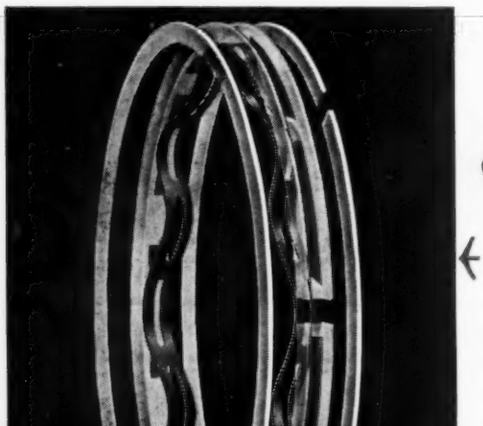


It's the

CHROME

that makes them

• Start Easier! • Work Better! • Wear Longer!


MD-50 STEEL OIL RING
THE ONLY RING WITH FULL-FLOW SPRING
HAS LONG CURVES
TWICE AS MANY SLOTS
CAN'T BLOCK ANY PISTON OIL HOLES

Sealed Power KromeX

FULL-FLOW RING SETS

1. Top compression ring is chrome-alloy cast iron with SOLID CHROME face, factory-lapped to a light-tight finish. Means more power, longer life.
2. Side rails of MD-50 oil ring have SOLID CHROME faces, Granosealed sides for flexibility. Hundreds of thousands of cars have proved this ring best for oil control even in badly tapered and out-of-round bores.
3. All rings are beveled or tapered to thread-line contact for quick seating and blow-by control.

Best for fighting Heat, Friction, Corrosion, Abrasion in late-model cars and trucks

GET IT FROM YOUR JOBBER

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW TRUCKS BEST IN OLD TRUCKS

Free PUBLICATIONS

FOR YOUR CONVENIENCE USE THE POSTCARD ON NEXT PAGE

L38. Engine Lubrication

"Some Problems Associated with Lubrication of Large Engines" is the title of this informative publication covering large gas, dual fuel and diesel engines. Cylinder Lubricators, Bearing Corrosion, Crankcase Explosions, Engine Deposits and Engine Wear are the five subjects covered.

Problems in connection with carry-over of fluids from the sight glasses of cylinder lubricators are discussed, especially in reference to when additive oils are included. An interesting chart gives a basis for estimating the oil feed rate in drops per minute depending on the drop size. Characteristics of paraffin and napthene base mineral oils in bearing lubrication are covered, together with a chart on the corrosion properties of the different bearing metals and one on the corrosion effects of water contaminated bearing oils.

A study is presented of minimum ignition temperatures of oils in crankcase explosions and the effects of diluting crankcase oil with distillate fuel. Engine deposits resulting from incomplete fuel combustion combined with lubricating oil decomposition are analyzed and suggestions are made for decreasing the deposits. The booklet concludes with a brief discussion of the parts played by corrosion, erosion and abrasion in piston ring and cylinder liner wear. To obtain your copy mark L38 on the postcard on the next page.

L39. Fire Protection

A brief three page folder presents a comprehensive outline on how to build fire protection in the trucking industry. The publication gives several check lists on what should be done to obtain adequate fire protection in motor vehicles, terminals, garages and other locations. It will give the reader a basic start towards a fire prevention program. Mark L39 on the postcard for a copy.

L40. Truck Cost Record

Especially prepared for heavy duty trucks, a large size, bound booklet is available for keeping accurate operating and maintenance expenses for each truck in the fleet. The first page defines the items covered and the following 12 double pages allow plenty of space for keeping a full year's record by month and day. Columns are provided for a truck's daily record of miles traveled, of trips, units (tons, gallons, etc.) carried, unit miles, driver's and helper's wages, quantity and cost of gasoline, oil and grease used, the cost of garage labor, repair parts, tires and tube repairs, garage supplies, depreciation, interest, housing, insurance, taxes, painting and washing. A special double column provides for comparison of actual and estimated costs. For a copy, mark L40 on the postcard.

L41. Screw Calculator

To help engineers, specifiers and others to quickly select the correct sizes of socket screws, a new, easy vision screw calculator is available. With it, all dimensions can be quickly obtained for a standard screw of given diameter. Threads per inch, the proper tap drill size in the National Coarse and the National Fine series, and the body drill and counter-bore sizes are given for each diameter.

All drill sizes from No. 80 to 1 in. and their decimal equivalents are also listed on the calculator. Write L41 on the postcard to get yours.

L42. Highway Programs

Here's an excellent 31-page summary on how annual state highway programs are developed and priorities for construction established. Fleet operators with an interest in more adequate roads will find in this comprehensive outline the points that should be considered in preparing annual highway development programs. Included in the booklet are discussions of the following questions: (1) Why do we need priorities for a highway improvement program? (2) What approaches have been made to the priority problem? (3) How do sufficiency ratings meet the need for priority programming? (4) What are the mechanics of establishing and maintaining a sufficiency rating record? (5) How can sufficiency ratings be presented to reflect the needs for highway improvements? (6) How can annual programs be set up to provide a simple and informative report to the highway users?

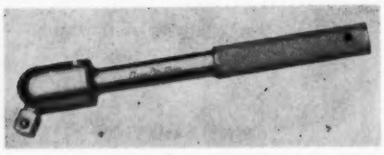
Prepared with the assistance of highway engineers from many states, this report will be sent you if you mark L42 on the postcard.

L43. Motor Vehicles

Here's an interesting 20 page booklet that probably won't help you operate your motor vehicles any better, but it may settle a lot of arguments in your favor. Briefly, it's a list of American motor vehicles by name, arranged alphabetically and giving the year they were introduced. From it you can show that the American Chocolate car was introduced in 1903 or the Checker cab in 1921 or the O-We-Go car in 1914. It lists over 2,000 names from the A.B.C. Steamer to the Zip. To get your copy of this historical record, write L43 on the postcard.

NEW Products

ADDITIONAL DETAILS AVAILABLE UPON REQUEST VIA POSTCARD



P1. Reversible Ratchet

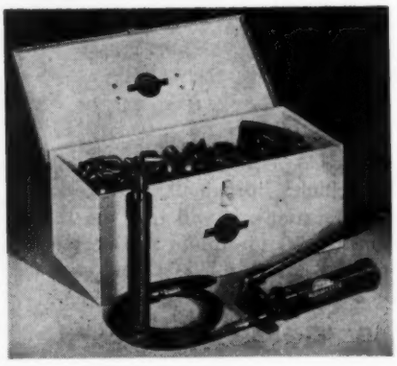
A new flex reversible ratchet, No. NB-50, offered by the New Britain Machine Co., New Britain, Conn., can be operated at any angle from horizontal to vertical position. Available in 3/8-inch Square Drive, it has a knurled grip, a triple plated, chrome finish, and a "keyless locking" feature that holds sockets or drive parts securely in place.

P2. Solderless Connectors

A series of solderless terminals and connectors designed for wire sizes 26 to 22 have been developed by Aircraft-Marine Products, Inc., Harrisburg, Pa. In laboratory tests they were vibration resistant and free from R.F. noise. They can be used on stranded or solid wire. Coming in a wide variety of tongue shapes, they can be had pre-insulated or non-insulated, with or without insulation support sleeves. Insulated types have yellow, polyvinyl plastic sleeves. Other styles have clear polyvinyl insulation to facilitate inspection.

P3. Booster Cables

Emergency starting of stalled vehicles is facilitated by a set of booster cables just announced by Associated Equipment Co., St. Louis, Mo. The cables come boxed, two to a set. Each end of the cables is equipped with heavy, 3/32 in. thick metal clamps, lead plated. The No. 4 size cable, 8 ft long, has an acid-resistant rubber jacket. Use of the cables is said to eliminate the lifting and hauling of emergency batteries or the stocking of hot-shot batteries and to permit one man to handle battery service calls.

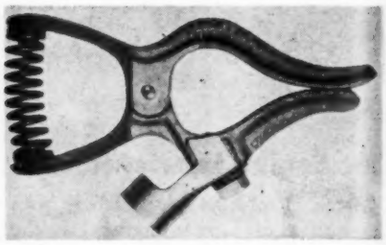


P4. Body Jack

A new model body and fender jack and a new model service jack have been recently introduced by Hein-Werner Corp., Waukesha, Wis. The Model No. F-4 hydraulic body jack features remote control, single action, 4-ton pushing power and automatic ram retraction. It weighs 5 lb, measuring 10 in. closed and 15 in. extended. The 4-ton, hydraulic service jack has a long, low chassis, automatic pump, pivoting unit, an easy-to-spot white swivel saddle, structural steel side members, ball bearing casters, a lifting range of 4 to 24 in., overload safety valve and a handle that operates throughout a 90 deg arc.

P5. Toe Gage

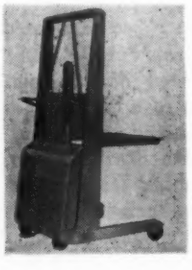
A new toe gage with large calibrated scales for easy reading of measurements has been announced by Weaver Mfg. Co., Springfield, Ill. It has a second scale mounted on the back of the gage permitting the mechanic adjusting the tie-red to read the scale without moving out to the front of vehicle. When used with a pair of the manufacturer's alignment gages, it is said to provide a fast, accurate method of measuring and correcting toe angle on passenger cars and light trucks. Reading is obtained directly from the spindle instead of the wheel hub, rim or tire sidewall.



P6. Ground Clamp

Tweco Products Co., Wichita, Kan., has just announced a new Model GC-200 "Cub" ground clamp which has a rated capacity of 200 amperes. It features a protruding upper lip for extra leverage in applying the clamp, wide jaws for added conductivity, serrated lower jaw which removes rust and scale as the clamp is applied and assures a clean connection, a strong and fully insulated spring, and simple bolt and clamp connection.

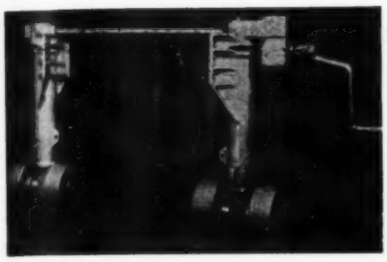
P7. Lift Truck



With its lift actuated by a piston-type hydraulic pump powered by a 6-volt electric motor, a new 1000-lb capacity lift truck has been added to the line of Century Products Co., Minneapolis, Minn. Current for the motor is supplied by an automotive-type storage battery equipped with a battery charger for overnight charging. A finger tip control raises or lowers or stops the lift at any intermediate level. A height of 4 ft is obtained in 15 sec with a maximum load. Loading platform measures 23 by 24 in. It is manually propelled on two fixed position large diameter front wheels and two swivel type trailing wheels. A convenient push bar is located waist high for operational ease. Overall unit height is 64 in.

The latest developments in parts, accessories, equipment and tools for the fleet shop

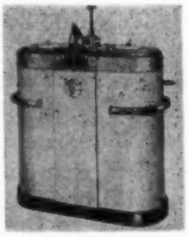
FILL IN CARD WITH APPROPRIATE NUMBERS FOR MORE INFORMATION



P8. Landing Gear

A new, all aluminum landing gear for trailers has been announced by Binkley Mfg. Co., Warrenton, Mo. It is cast from the new aluminum alloy, Almag 35. The screw mechanism and gears are made from alloy steel and the landing gear is available with either one or two speeds, with the two-speed gear box being detachable. The weight of the two-speed unit is 186 lb.

P9. Lubrication Unit



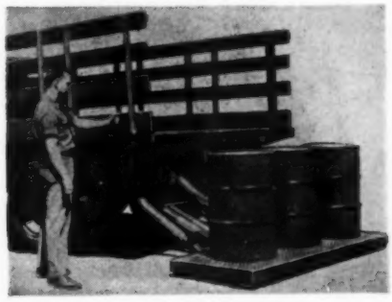
A portable, dual pump lubrication unit just announced by Lincoln Engineering Co., St. Louis, Mo., is one unit in their new line of lubrication equipment. The red and white baked enamel cabinet houses two air-motor-operated Lubriguns, 100-lb drum size, one for multi-purpose chassis lubricant and the other for multi-purpose gear lubricant. Chassis lubricant pump output is 44 oz per minute and the gear lubricant pump delivers 15 lb per min. Hose assemblies, designed for easy withdrawal and return, extend 10 and 7 ft, respectively. Each of the two rounded sections housing the Lubriguns may be raised separately for drum changing. Air inlet on each end of the unit permits connection of air hose to either Lubrigun. It is mounted on four 3-in. diameter casters, is bonderized and has nickel plated hardware.

P10. Tire Remover

Tire removal using a new tool manufactured by LaKo Corp., St. Paul, Minn., is accomplished by (1) dropping tire over a spindle and raising ratchet handle, (2) pressing a spade bead breaker lever, a part of the base unit, to break the bead, (3) inserting a take-off tip along the rim edge and under the top bead and, with a single rotation around the center spindle, lifting the bead over the rim, (4) removing the tube and pushing the take-off tip under the second bead where a second rotation around the center post removes the tire completely. On the other end of the tool, opposite the take-off tip, is a rim-roller for replacing the tire on the rim which operates in a similar manner.

P11. Lift Truck

Extra stacking height is possible by using a new accessory designed for the line of lift trucks being manufactured by Transitier Truck Co., Portland, Ore. Three sizes are available giving 18, 24 and 36-in. added stacking height. Added free lift is included. For example, a standard 7-ft mast using the accessory will collapse to 66 in., stack to 102 in. and have 26 in. of free lift.



P12. End Loader

A new hydraulic end-loader for all makes of motor trucks is announced by The Galion Allsteel Body Co., Galion, Ohio. The unit is available in four models with loading space of 28 x 84 in. to 34 x 90 in. Models are adaptable to all trucks of 1½-ton size and over and have a load capacity of 2000 lb. Power is supplied direct from the truck engine through a transmission-mounted power take-off. The latter activates a hydraulic hoist which lifts or lowers the end gate as desired. The "LOAD-evator" action is controlled by a single spring-load lever.

P13. Cargo Heaters

Two new model cargo heaters complying with new ICC regulations have been announced by Luminator, Inc., Chicago. The Model No. RH-51 utilizes heat ordinarily dissipated by the radiator, and can be used on bodies up to 18 ft. It consists of a series of copper tubes with spiral fins mounted on the floor of the truck. A thermostat, adjustable for any temperature desired between 35 and 65 deg, controls a solenoid valve connected to the engine water circulation system. It uses up to 12,000 BTU per hr, which the maker claims will permit operation of the driver's hot water cab heater in addition even with the engine idling. The system requires 6 qt of added coolant and weighs 65 lb. The model for larger trucks and trailers, RH-1, is a propane gas heater mounted under the vehicle.

(TURN TO PAGE 168, PLEASE)

John Bull Reconsiders . . .

NATIONALIZATION

Release of the trucking industry by British government is seriously considered by Parliament

By Ralph Cropper

THE AUGURIES are good for an early end of nationalized trucking in Great Britain. Mr. Churchill's Conservative government produced a White Paper (an official government statement) on transport policy in May.

"This was followed in July by a parliamentary bill, which provoked widespread general discussion. With the opening of the new session of Parliament by Her Majesty the Queen at the beginning of November, the Government introduced a new bill, which makes no change in its broad plans for the denationalization of transport, but contained a number of amendments designed to meet some of the criticisms that have been raised.

The bill, recently passed its second reading in Commons by a 308 to 282 vote, is now being given detailed study in committee. Following this a report will be made, the bill will be given its Third Reading and will be forwarded to the House of Lords where it will pass through a similar series of readings and stages, but probably rather more quickly. The real end of the process comes with the Queen's signature to the bill. According to current estimations, this is likely to take place by the end of April.

The proposed legislation now before Parliament provides for the splitting up of the British Road Services (the trading name of the nationalized trucking corporation) into "transport units" which will be offered for sale by open tender. The railways are to remain in state ownership, but are to be decentralized; the railways are to prepare a scheme of decentralization for approval by the Minister.

The bill attempts to tackle the basic problem of the relationship of road and rail by putting forward the highly controversial suggestion of a new levy on highway transportation. This is to take the form of an additional tax on all trucks, except small delivery vans.

The funds thus raised are to be used to meet the losses which the Government will sustain through the denationalization of road transport. Such losses will arise from the fact that it is generally recognized that the Government has little to offer in the way of good will to those who contemplate purchasing sections of the British Road Services. However, the levy will fall on the whole of the trucking industry (including private truckers and the present independent haulers). Having regard to the enormous sums which the British trucking industry is already contributing in taxation, which is nearly ten times the amount spent on highway construction and maintenance, this proposal is still regarded in many quarters as most unfair.

Further modification of the levy may well occur as a result of the parliamentary discussions of the bill. While it contains elements of injustice, it is equitable to expect the beneficiaries of the new proposals to make a reasonable contribution towards defraying the losses that the Government is likely to incur in introducing the scheme. The future prospect for the railroads is an open question.

(TURN TO PAGE 130, PLEASE)

White FREIGHTLINER

USES

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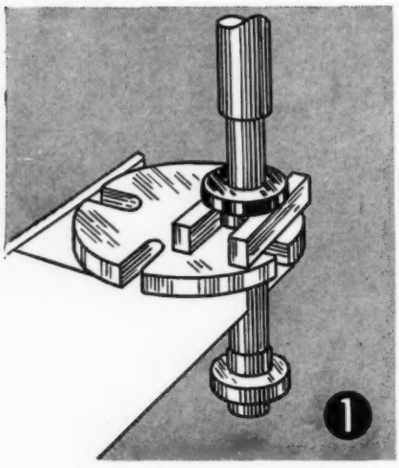
How to Remove A Bearing

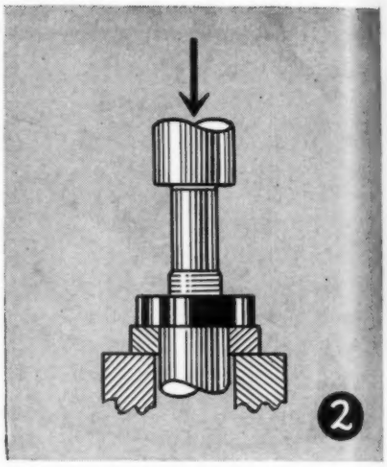


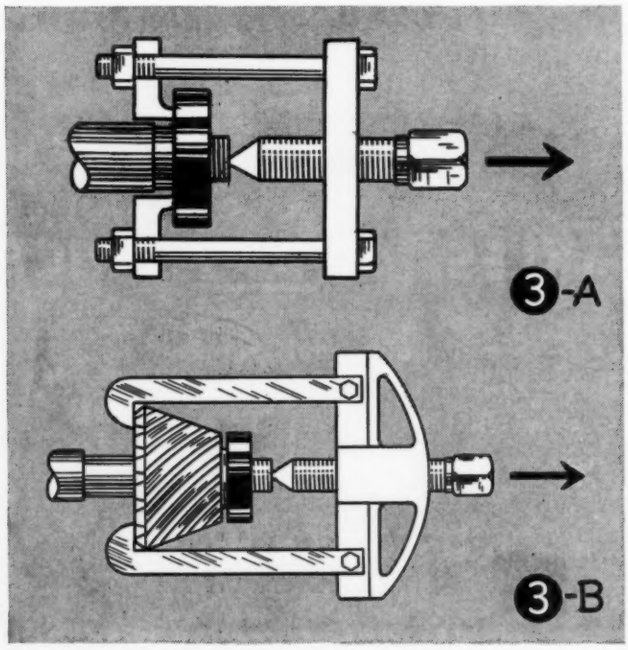
1. There are three methods of removing a bearing from a shaft without damaging the inner race. Where the shaft is clear of gears or parts, the bearing may be pressed off with a hand press.

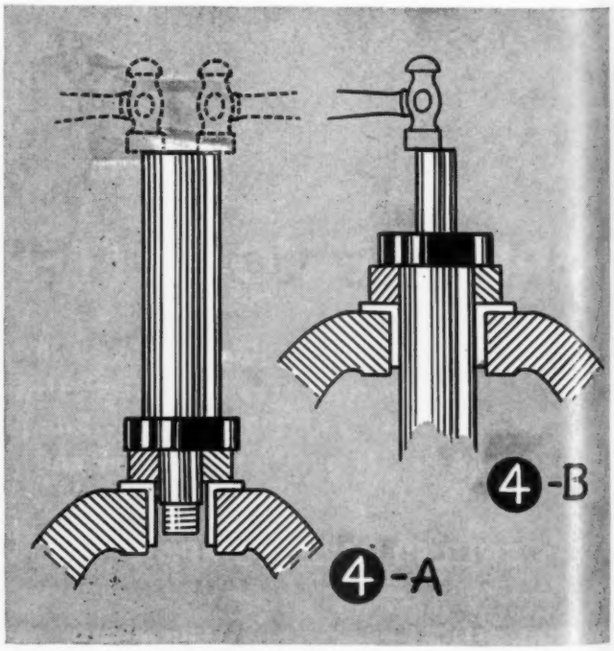
2. Insert support blocks of equal size contacting the inner ring of the bearing—or both rings if the bearing is flush faced. Keep press table and blocks clean and square. Provide some means to keep shaft from falling on floor. Push press ram down against the shaft. Resistance offered by support blocks strips the bearing from the shaft.

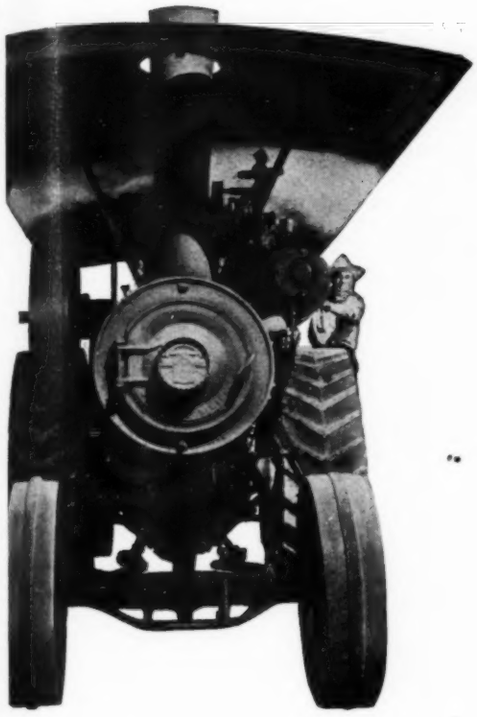
3. Where the shaft does not protrude below the bearing to permit chucking in a vise or where there are gears or parts behind the bearing, a bearing puller must be used. Insert puller jaws behind the bearing inner race (a) or behind the gear (b). Be sure that puller jaws are set so they will not slip over the inner race and damage the separator or shield when pressure is applied. Exert even pressure and pull straight. Cocking from unequalized pulling can damage both shaft and bearing. Also take care not to damage shaft threads, keyways or shoulders during the pulling process.

4. If shaft is clear of gear or parts, a drift pipe (or metal slug) and hammer may be used. The shaft must extend below the bearing to permit chucking in a vise. Protect shaft surface with copper sheet or hard wood blocks and insert in vise. Using either a drift tube (a) or a soft metal slug smaller than the bearing bore (b) hammer the bearing from the shaft or the shaft from the bearing. When using a drift tube drive on alternately one side and then the other to keep the bearing from cocking.







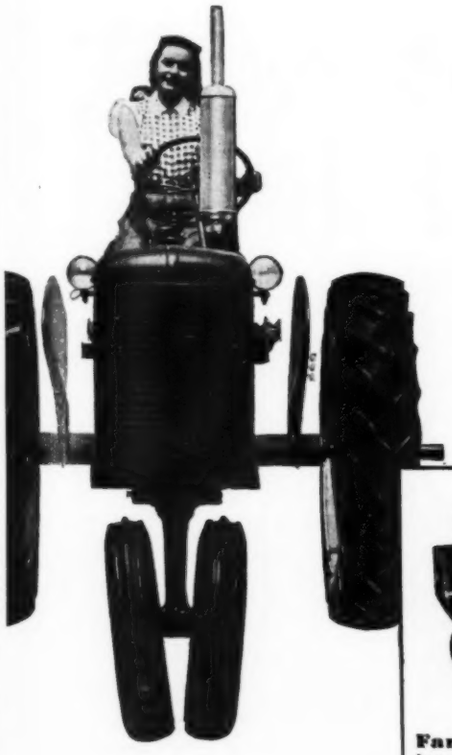


FARMERS expect more from tractors than ever before. They must be economical to operate . . . and above all, dependable. Tractors need water pumps and fuel pumps that will assure uninterrupted performance, especially at planting and harvest times. Hydraulic pumps to actuate tractor implements are of equal importance.

These pumps are among the many things that have been engineered and are being precision built by Thompson for the automotive and aircraft industries.

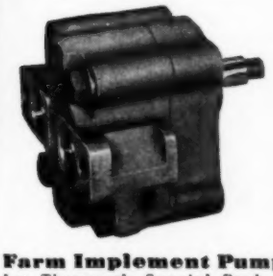
All the techniques and skills gained in making unbelievably complex items, many made to the closest

Pump Performance you can take for granted!



tolerances, are applied to Thompson pumps. This means that every one assures maximum performance and dependability.

If you need pumps to cool your engines, to raise and lower your farm implements or industrial pumps to keep your product cooled, write or phone *Special Products Division, Thompson Products, Inc., 2196 Clarkwood Road, Cleveland 3, Ohio.*



Farm Implement Pump.
Let Thompson's Special Products Division work with you on your hydraulic pump problems.

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SPECIAL PRODUCTS DIVISION

1952 New Truck Registrations by Makes by States*

STATE AND MONTH		Auto-car	Brock-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Ken-worth	Mack	Peter-bilt	Ree	Ster-ling	Stude-baker	White	Willys	All Others	Tota
Alabama	October	1		716	2	2	251		375		240	188		20		1		109	24	15	1	1,948
	10 Mos.	11	4	5107	16	11	1860	23	2796		1521	1140	1	148		13		500	190	204	10	13,555
Arizona	October			227	4		67		116		77	83	1	1		3		15	4	21	2	621
	10 Mos.	3		1606	12	2	699	2	1108		697	590	10	17	2	24		178	52	192	41	5,233
Arkansas	October			741	1		196		421		305	219		4				76	11	27	1	2,002
	10 Mos.	2		5174	13		1483		3092	2	2088	1377		41		10		560	81	209	12	14,144
California	October	11		2188	22	16	1012	4	1144	36	699	557	22	26	10	31	1	194	62	267	22	8,324
	10 Mos.	98	15	14780	241	190	8422	13	9209	103	5423	4610	208	283	98	203	46	1636	501	1639	179	47,897
Colorado	October	2		470	3	4	89	1	243		147	141	4	6		5		38	9	48	2	1,211
	10 Mos.	4		3129	25	37	877	2	2064	6	1022	1098	20	70		27		341	53	431	26	9,232
Connecticut	October	5	9	254	7	9	123	5	137		69	128		29		19		29	21	24	2	868
	10 Mos.	32	40	1780	77	75	901	25	1124		468	701		172		69	4	219	112	173	42	5,994
Delaware	October	1	1	77			41		58		19	25						6				228
	10 Mos.	7	10	849	21	6	250	3	596		165	212		13		2		62	25	19	11	2,081
Dist. of Columbia	October			98			95		46		31	20		9		2		3	9	4		317
	10 Mos.	12	5	835	14	29	399	5	364		211	164		21		27		16	34	57	7	2,900
Florida	October			588	7	7	203	3	302		172	107		23		18		64	35	63	11	1,818
	10 Mos.	20	3	5085	73	64	2302	6	3425	1	1330	1391		227		87		901	244	614	180	15,883
Georgia	October		2	752	2	1	155	1	329		170	179		10		2		97	12	10	1	1,723
	10 Mos.	2	5	6921	44	21	2290	2	4192		1781	1787	1	146		31		910	155	218	20	18,826
Idaho	October			200	3	3	62		109	4	93	87		2		2		25	3	47		840
	10 Mos.			1567	24	7	627	8	1126	5	733	773	13	30		12	3	224	30	392	3	5,577
Illinois	October	1		1069	29	10	346		579		280	348		19		6		94	38	85	10	2,914
	10 Mos.	83	3	9481	323	109	3933	16	6654	2	3349	4120		136		85	1	858	405	529	169	29,258
Indiana	October			490	7	2	164	1	283		118	214		4		12		97	32	13		1,437
	10 Mos.	11		5455	78	60	2340	9	3760	4	1379	2506		103		63		959	397	230	56	17,430
Iowa	October			591	6	2	155		364		129	260		4		3		62	13	29	2	1,620
	10 Mos.	1		4545	52	25	1389	3	3127	2	975	2268	1	37		28		453	115	222	35	13,270
Kansas	October			527	6	9	126	1	260		180	178				2		47	12	28	9	1,385
	10 Mos.			5285	39	35	1545	3	3292	5	1747	2397		9		23		514	122	271	28	15,315
Kentucky	October	1		613	8	2	172	1	347		152	150		1		8		56	16	48	4	1,577
	10 Mos.	3		4417	43	21	1432	7	2940	4	1304	1473		34		39		517	96	342	37	12,709
Louisiana	October			615	16		166		387		176	188		5		1		113	7	15	1	1,690
	10 Mos.	3		4496	47	10	1436		3225		1454	1385		59	1	13		631	93	208	20	13,001
Maine	October			161		2	69		128		82	67		6		9		26	5	17	4	576
	10 Mos.	3	6	1324	3	7	473	8	1006		560	586		87		27	1	198	33	173	22	4,517
Maryland	October	1	3	295	1	4	111	2	175	1	57	95		8		5	1	35	19	11	2	826
	10 Mos.	52	34	2475	16	84	1178	20	1662	4	569	955		110		43	3	234	137	111	54	7,741
Massachusetts	October	15	8	352	13	12	162	3	283		112	137		30		22	6	51	40	37	2	1,285
	10 Mos.	106	64	3101	92	129	1619	19	2330	6	795	1149		250		91	35	407	273	231	59	10,756
Michigan	October	3		1214	13	27	419	21	923		367	198		5		27		76	17	57	6	3,373
	10 Mos.	32	5	9159	97	200	3725	94	8518		2434	1785		110		213		608	202	400	93	27,575
Minnesota	October	1		606	9	6	200		403	1	140	272		9		12		78	10	43	3	1,793
	10 Mos.	1		4687	68	50	1658	4	3188	19	1093	2222	1	70		61		538	105	268	44	14,073
Mississippi	October			750	1		211		391		349	225						66	2	22		2,017
	10 Mos.			4707	6	2	1361		2711	2	1933	1197		36		2		534	32	177	10	12,718
Missouri	October	2		655	1	3	140		314		184	165		6		9	1	64	28	30		1,602
	10 Mos.	13		6922	43	71	2094		4257	2	2188	2168	3	49		65	7	615	339	261	41	19,118
Montana	October			263	1	1	59		123	4	27	101	2			2		34	1	67		685
	10 Mos.			1889	27	8	542	1	1349	8	545	966	38	22	1	24		283	35	521	3	6,230
Nebraska	October	1		527	16	4	89		288		141	223	4	5		1		56	10	43	3	1,411
	10 Mos.	2		3658	103	16	766	2	2462	9	1090	1702	47	33		18	1	413	128	402	25	10,877
Nevada	October			65			48		51		18	12		1				17	2	18		232
	10 Mos.			461	4		245		257		175	154	7	5				64	4	98		1,474
New Hampshire	October		3	58	1	1	25		35		23	31		4		1		7	1	16		206
	10 Mos.	4	8	709	7	13	259	2	485	2	202	267		61		14	1	75	38	142	11	2,298
New Jersey	October	4	31	682	4	15	222	3	513		165	205		33		3	2	69	38	47	8	2,044
	10 Mos.	92	185	4627	71	154	2122	38	3656	14	1469	1708		319		69	9	407	319	343	101	15,701
New Mexico	October			154			59		103		48	37		13		1		54	3	15		487
	10 Mos.	13		1797	1	1	522	1	1219	6	609	442	3	95	9	16		308	46	180	12	5,280
New York	October	38	64	1251	47	15	683	13	808	1	283	512		129		68	8	102	85	133	14	4,252
	10 Mos.	194	544	9808	358	211	5262	98	6570	35	2751	4130		904		414	42	808	721	763	247	33,861
North Carolina	October	4		820	4	3	261		372	1	267	245		62		4	1	87	39	34	3	2,207
	10 Mos.	28	2	6783	50	45	2386	8	3881	2	1867	2238		262		28	4	851	322	374	47	19,178
North Dakota	October			207			48		144	2	47	136	1			2		17	1	18		623
	10 Mos.			1583	6	3	495		1289	7	371	1174	1	4		5		197	10	145	4	5,294
Ohio	October	10		1287	11	23	457	3	664	1	291	448		26		28		128	81	74	15	3,545
	10 Mos.	55	5	9303	93	198	4245	60	6466	8	2283	3735		236		204		1122	782	740	156	29,861
Oklahoma	October	1		736	1	4	171		349	10	232	214	1	6		9		56	16	31	4	1,841
	10 Mos.	7		5505	6	31	1631		3543	47	1582	2082	4	61		34		553	221	225	43	15,555
Oregon	October	1		389	3	2	154	1	195	2	146	143	13	15	13	2	2	22	4	84	7	1,178
	10 Mos.	17		2834	124	23	1388	21	1884	6	1229	1472	117	195	63	31	8	292	139	745	152	10,740
Pennsylvania	October	28	49	1202	24	17	501	8	637	2	328	463		93		28	5	121	127	61	14	3,704
	10 Mos.	175	367	9970	164	188	5095	67	6388	18	2680	4311		659		224	12	1106	718	562	131	32,613
Rhode Island	October	5		104	2	2	29		52		18	27		6		5		9	8	3	1	271
	10 Mos.	29	7	557	8	17	302		505		109	242		53		19		70	46	28	5	1,967
South Carolina	October			412			134		144		98	79		5				45	10	7	1	935
	10 Mos.	9	1	3896	15	8	1107	6	1955	2	888	1069		99		2		383	105	84	45	9,674
South Dakota	October			120	1		39		65		37	71				1		32	1	21		388
	10 Mos.			1289	40	2	457	1	998	5	370	1098	1	6		31		185	11	208	4	4,706
Tennessee	October			755	7	4	173		290		199	214		4		4		53	13	25	2	1,753
	10 Mos.		21	5233	32	18	1780	49	3313	1	1644	1570		111		21		590	185	206	15	14,789
Texas	October	14		2435	18	7	579		1248		705	552	6	30		10		198	101	104	17	6,034
	10 Mos.	140		21123	143	89	6387	11	12998	4	6600	5952	44	354	1	159	2	2306	1083	1002	129	58,525
Utah	October			218	2		28		75	1	48	59		3	1	2		11	4	25	4	481
	10 Mos.			1397	27	8	309	10	940	5	456	529	26	42	33	23		100	45	187	33	4,170
Vermont	October	1	1	59	3		34		31		32	30						6	2	21	3	223
	10 Mos.	3	16	637	10	4	280	4	332	4	256	278		14		11	3	74	8	181	27	2,142
Virginia	October	6		569	1	4	204	1	333	3	189	219		12		11		92	20	45	2	1,711
	10 Mos.	27	13	5067	20	51	2062	18	3350	26	1448	1734		149		70		649	201	371	28	15,282
Washington	October			345	8	5	141		183		135	131	7	6		2		50	9	51		1,073
	10 Mos.			2731	60	17	1585		1931	2	1109	1274	58	89		18	2	282	109	417	35	9,999
West Virginia	October			263		2	128	2	132	1	91	89		3		1		27	2	43	1	785
	10 Mos.	8	27	1963	21	16	1029	34	1301	10	704	691		62		32		207	90	335	31	6,561
Wisconsin	October	1		528	8	12	154		262	3	138	206		3		6	2	53	23	36	11	1,448
	10 Mos.	6		4605	68	50	1652	9	2937	49	1218	2053		68		61	21	432	146	344	80	13,861
Wyoming	October			135			25		70		51	54		1				12	1	38		387
	10 Mos.			1092	12	2	294		752	5	455	539	7	13		4		120	20	291	4	3,610
Total	October, 1952	156	171	27813	323	242	9180	74	15284	73	8105	8728	61	697	24	381	29	2899	1030	2021	195	77,486
Total	October, 1951	181	175	29220	370	333	9655	82	23554	66	8908	11247	57	882	28	268	26	3470	1132	2373	254	92,281
Total	10 Months, 1952	1308	1390	220964	2937	2416	86473	710	146525	443	68289	79426	609	6174	208	2810	205	24496	9326	16445	2565	671,719
Total	10 Months, 1951	1782	1933	304319	3947	3327	90676	876	215637	418	88619	81497	574	8569	258	2989	293	27594	10590	20584	2255	864,737

* Data from R. L. Polk & Co.

Today's Big Profit Haulers—
FEDERAL Trucks

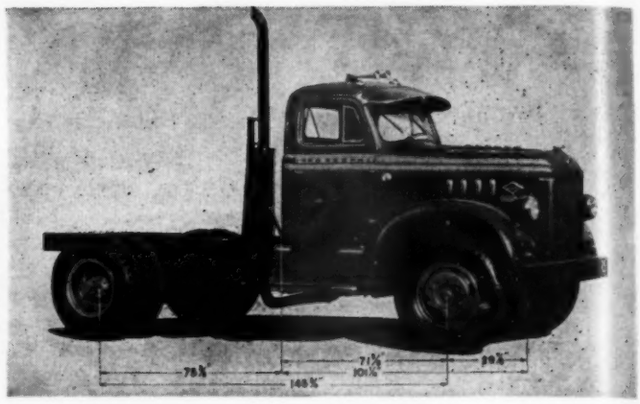
Check the facts and your next truck will be a Federal! On the job records of Federal Trucks successfully meet the most challenging of on and off the highway demands. All-truck construction gives you hundreds of plus features, more profitable payloads, lower operating costs and extra stamina that spells dependability on any assignment. Designed by truck builders who, for 43 years, have built quality trucks for all types of service.

Your Federal dealer is offering a broad line of 46 truck models in capacities ranging from 1½ to 35 tons, gasoline or Diesel powered with gross ratings to over 90,000 pounds. Let him help you select the Federal best suited for your hauling needs.

FEDERAL MOTOR TRUCK DIVISION
FEDERAL FAWICK CORPORATION
Detroit 9, Michigan, U. S. A.

FEDERAL TRUCKS

New Diamond T Light Weight Diesel



Short dimensions permit use of 35-ft trailer without exceeding 45-ft overall length. Cummins JBS 150 hp engine is used

DIAMOND T's latest is a new light weight diesel, Model No. 723, designed for highway service handling loads normally carried on 10:00 tires. It is available with single rear axle, as a six wheeler and with a special radiator and bumper design to provide a bumper-to-back-of-cab dimension of 101¼ in. permitting use of a 35-ft trailer without exceeding a 45-ft overall length. This model allows an 18 in. clearance between the cab and front of trailer.

The standard chassis and cab complete without fifth wheel weighs approximately 9,400 lb and the maximum gross combination rating is 55,000 lb.

Model 723 is powered by the new four cycle, light-weight Cummins JBS engine, providing 150 bhp at the governed speed of 2500 rpm.

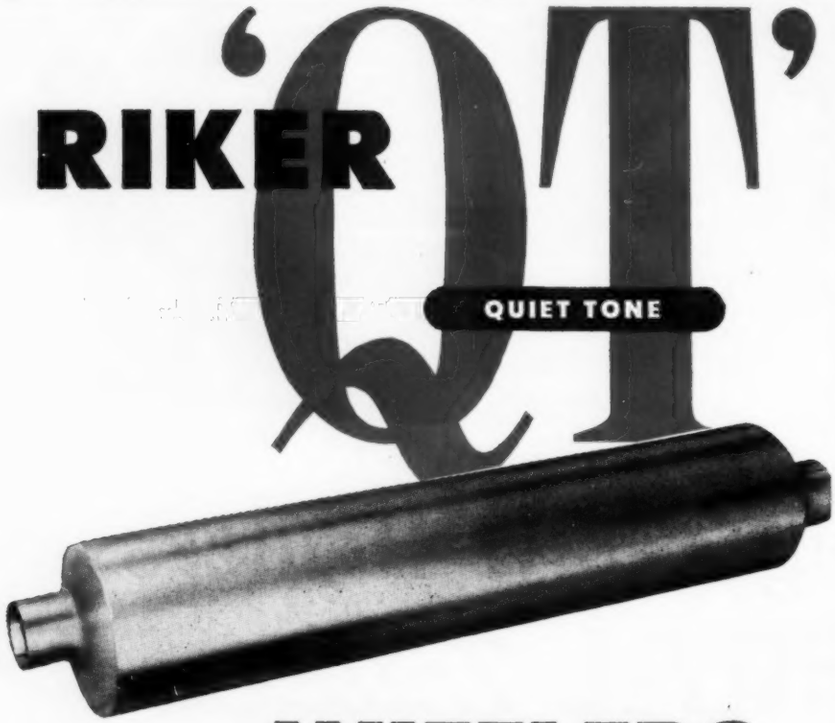
REAR end construction choices include single-speed and two-speed bevel axles, two-speed double-reduction axle, oversize two-speed axle, also available with aluminum housing, Diamond T Vari-Rate springs for tractor service, conventional springs with helpers and radius rod drive, and tandem drive axles for six-wheelers. Standard axle is the Eaton 18501 series full-floating two-speed bevel, with second reduction for the low speed range through planetary gears. Shift is electrically operated through push-button control. Diamond T Vari-Rate springs and Westinghouse air brakes are standard.

Where a six-wheeler is desired, Model 723 is available with the tandem drive Eaton-Hendrickson 36M rear bogie. This consists of two special bevel axles in a rocking beam suspension. An inter-axle differential is incorporated in the torque divider, which is mounted on the forward axle. Frames of six-wheelers are reinforced with inner-liners, and the 3-speed auxiliary transmission is supplied, providing 15 speeds forward and three in reverse.

Cab width is 69" with double wall construction of heavy gauge steel, die-formed and welded. Windshield is a single full-width sheet of curved laminated safety plate glass without obstructive center post. The two large rear windows are of safety plate glass and door windows are two-piece.

RIKER 'QT'

QUIET TONE



HEAVY DUTY TRUCK and BUS MUFFLERS

MR. RIKER says:

"Improve PUBLIC RELATIONS with the NEW RIKER "QT" (Quiet Tone) MUFFLER"

ASK YOUR JOBBER, or write direct for literature and prices.

RIKER MANUFACTURING
6809 DETROIT AVE., TOLEDO 12, OHIO
DESIGNERS • ENGINEERS • MANUFACTURERS
HEAVY DUTY MUFFLERS EXCLUSIVELY

Chevrolet Improves Engines in 1953 Line

THE CHEVROLET truck line for 1953 includes 74 models on 11 wheelbases, ranging from the sedan delivery on a 115-in. wheelbase to a 212-in. wheelbase school bus chassis to handle a 54-passenger body.

The Loadmaster engine has been redesigned throughout, including a compression ratio of 7.1 to 1. Bore and stroke have been changed from 3½ x 3¾ in. to 3 9/16 x 3 15/16 in., upping displacement to 235 cu in. This engine develops 108 hp at 3600 rpm.

The Thriftmaster engine develops 115 hp at 3600 rpm with a compression ratio of 7.5 to 1. Aluminum pistons are used. Pistons have cam-ground skirts and steel struts to control expansion. Steel backed, thin-walled connecting rod insert bearings have been adopted. Another new feature is full pressure lubrication, providing more oil at higher pressures.

To meet increasing electrical loads a new 45-amp generator is now standard equipment on both engines. Because of the higher voltage at the spark plugs new moisture resistant covers for spark plug terminals assure more positive starting.

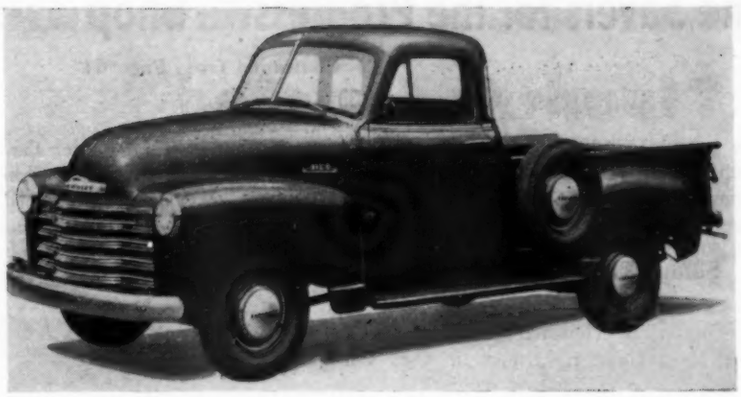
Brake Improvements

FOR additional safety in operation, the brake improvement program incorporates torque action brakes in all models except the heavier-duty trucks which have twin action brakes at the rear. The brakes utilize the momentum of the truck to assist stopping effort. Front brake area has been increased on some medium- and all heavy-duty models to provide greater durability.

The three-speed transmission has been improved by lengthening the main shaft and the installation of a second set of needle bearings.

On the cab-over-engine series, the radiator core is fitted with a shroud which directs the air circulated by the fan through the radiator core, thus utilizing more effectively the heat dissipating capacity of the core. A supercooling core, with ½-in. greater depth and more frontal area, is offered with a shroud and a 4-lb pressure cap as a regular production option on heavy-duty models.

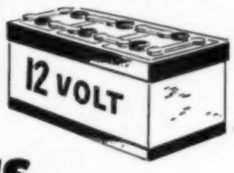
Side-mounted spare tire carriers are optional equipment this year on light and medium duty pickups. E-Z Eye glass, which reduces sun glare and the brilliance of on-coming car lights in night driving, is another option.



New Dual-Purpose

MARQUETTE

6-12



Chargers

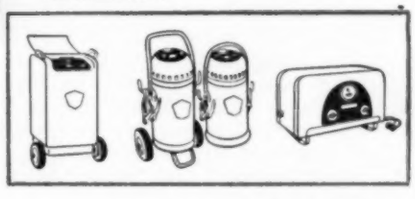
Model 211

Featuring Marquette's famous 20-second test, this charger is completely automatic. Indicates time needed for charge . . . shuts off when battery is charged. Built-in safety features.

IT'S THE "PROFIT BUILDER" CHARGER LINE

Here's the charger line you've been waiting for . . . the new MARQUETTE 6-12 volt line! Service both 6 and 12 volt systems with the *one* charger.

Every charger in the line is built to Marquette's high standards of quality . . . built with component parts by famous makers . . . WESTINGHOUSE, OHMITE, MARION, KLIXON, CRAMER, GENERAL ELECTRIC and, of course, MARQUETTE! Ask your jobber for full information.



MARQUETTE

Automotive Service Equipment

Marquette Manufacturing Co., Inc. • 307 East Hennepin Ave. • Minneapolis 14, Minn.

Time Savers for the Progressive Shop

Continued from Page 64

device saves a minimum of two hours on each job. It was constructed here in the shop with the help of our welder and metal man.

Safety Tire Remover

WE have also a safety device for removing rims from tires that was designed and made right here in the shop. Not an easy job under the best of conditions, when a rim begins rusting into the tire, we have cut a difficult job that took 30 min or more to about 5 min. And have made it an absolutely safe operation: the rim cannot fly off and injure anyone.

This safety device is a metal disc 32 in. in diameter and ½-in. thick with a screw shaft 1½-in. in diameter and 14-in. high, centrally fixed on the disc. The disc is placed under the tire. A metal safety cover, resembling in appearance a double-cross, is put over the tire and the 1½-in. screw nut is tightened. The tire is thus held fast in a press.

A tire whose rim is about to be removed first has its lock ring removed. It is then put into the safety press; the top is put on and the nut screwed down. The tire is slowly inflated until it is off the rim. The air is then released from the tire, the tire is loose and can be lifted right off.

We do all our tire removal jobs on the safety press. This too was constructed by our metal man in about five hours at a cost in materials of about $20.

I CAN SEE IN THE DARK- BUT YOU'LL DO BETTER WITH

TOUGH TUNG-SOL®

12-16 VOLT TRUCK LAMPS

If you've ever groped your way over a dark road with a headlight or two out, you'll appreciate the aid and comfort provided by tough Tung-Sol Truck Lamps. They've got extra stamina to stand the vibration and shocks that quickly knock out ordinary lamps.

Our engineers went over every lamp in our 12-16 volt series. They found out which types were giving the most trouble and why. Then, wherever service difficulties showed the need, Tung-Sol Lamps were redesigned to stand up under the roughest kind of truck service.

The Tung-Sol 12-16 volt 4430 all-glass Sealed Beam Headlamp is a good example of the durability built into the whole Tung-Sol Truck Lamp line. The top filament is anchored at the center by an extra support. That means it is always in proper focus. It cannot sag and touch the lower filament and the top filament coils cannot close up and short out.

You can depend on Tung-Sol Truck Lamps to make night driving easier and safer. They will ease your maintenance burden and keep you out of trouble on the road. Try them. Your supplier has them. TUNG-SOL ELECTRIC INC., Newark 4, N. J. Sales Offices: Atlanta, Chicago, Culver City, Dallas, Denver, Detroit, Newark, Philadelphia.

TUNG-SOL MAKES: ALL-GLASS SEALED BEAM LAMPS, MINIATURE LAMPS, SIGNAL FLASHERS, PICTURE TUBES, RADIO, TV AND SPECIAL PURPOSE ELECTRON TUBES.

High spots are easy to work with an extension table and tray mounted on this combined welding table and ladder

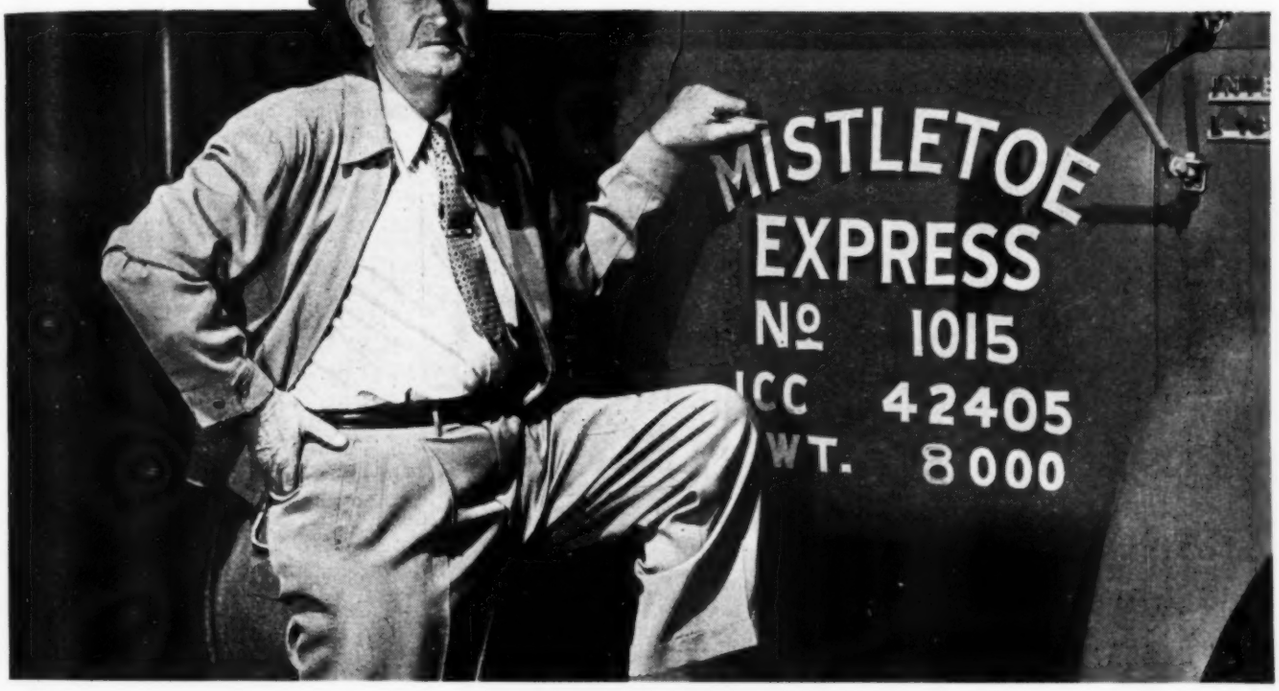
Welding Table

WE have also our own welding table that serves a multiple of purposes including workbench and ladder. With a 7/16-in. metal working surface of 29 in. x 44 in. supported on 32-in. angle iron legs 5/16-in. thick and 2-in. wide, the table is readily maneuvered by 5-in. casters over the shop despite its weight. A tray of compartments for assorted welding rods puts such supplies immediately at hand no matter where or at what height our welder may be working. An extension table of diamond top metal with angle iron legs and its own adjustable tray of tools and supplies is placed on top of the welding table and ladder-like, brings a workbench right at his elbow when our welder is working on top of a van or trailer.

(TURN TO PAGE 108, PLEASE)

How many miles will this truck run before overhaul?

100,000, 200,000, 250,000, 300,000, 400,000?



"I was planning on an overhaul at around 200,000 miles. Now—I've given up predicting how long this buggy will go." That's what Fred Ward, Maintenance Superintendent for Mistletoe Express Company of Oklahoma City, has to say. The truck is an L-185 International. It is powered by Philgas. And October 1st it had passed the 250,000 mile mark. It has never had the head off!

The truck carries all types of loads in all types of weather on all types of roads. The cost of parts is well under a hundred dollars. It has used 11 sets of spark plugs, 6 sets of points, 1 distributor and 35 oil filter cartridges. The clutch has not needed replacing. Oil consumption is only a quart every 500 miles.

It's anybody's guess as to how many miles this truck will go before overhaul. It won't be until then that complete records can be given. But Fred Ward is convinced. He says: "Any fleet owner who hasn't investigated Philgas is missing a darn good bet." He now has 17 units running smoothly on Philgas. Why not find out how you too can save with Philgas. A qualified Philgas engineer will call on you. No obligation. Just write our nearest office!

Phillips 66 Philgas
THE ALL-PURPOSE FUEL

PHILLIPS PETROLEUM COMPANY

Sales Department • Bartlesville, Oklahoma

Offices in: AMARILLO, TEX.—*First National Bank Building* • ATLANTA, GA.—*1226 Candler Building* • CHICAGO, ILL.—*7 South Dearborn*
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RALEIGH, N. C.—*16 W. Martin St.* • ST. LOUIS, MO.—*4251 Lindell Boulevard* • TULSA, OKLA.—*21st and Utica* • WICHITA, KAN.—*501 KFH Building*

Time Savers for the Shop

Continued from Page 106

Engine Removing

WE built another device to take engines out of trucks where the cab is right over the engine. Not being able to get a chain hoist in, it would have taken four men to lift the engine out. A four-legged metal frame from which is suspended a U-clamp with screw shaft spans the floor panel. A 15-in. metal pipe with a U-clamp and chain hoist at one end is put through the suspended U-clamp. As the screw shaft is screwed up, the engine is lifted out and slid through the front of the truck from which the radiator and grille have been removed. The screw ratchet in this case came off an old handjack with its base taken off.

In the process no damage is done to the engine or truck, no injury to the mechanics through heavy lifting.

Gear and Bearing Remover

TO get gears and bearings off a transmission shaft or differential, we made a device out of ½-in. metal using a heavy screw and nut off an old jack. Attaching this tool right to the lug bolts on a hub, we can now remove gears and bearings without loss or damage instead of banging them off with a hammer and ruining them.

Wheel Puller

THERE may be a wheel puller on the market but we designed our own at a much lower cost, I am sure, than if we had gone out and bought it. Ours is used in removing wheels from semi-floating axles on old trucks. Made out of an old wheel hub and part of a screw jack, our device is fastened onto the hub. If a wheel knocker were used, the thread of the axle would be damaged and the axle shaft ruined.

Portable Workbench

OUR solution to the maneuverability of a portable workbench is one we are very proud of. This metal workbench had two wheels in front and two legs in the rear, wheelbarrow style, making a stationary worktable when not in use around the shop. However, once it was freighted with tools for use beside a vehicle, we found that it was impossible to lift and push around. We solved that one by adding a "fifth wheel" at the rear which elevates the workbench making it easy to push around no matter how weighted down it is.

The fifth wheel was a discarded caster of a dolly. The threaded shaft put through the lower tray of the workbench came off an old screwjack. A wing handle was made in the shop.

Eager to make the workbench as useful as possible, we built five metal drawers and inserted compartments for assorted bolts, lock washers, cotter pins, etc. We built electrical outlets right into the workbench for valve grinding, drilling or sanding. We also made our own special bracket attachments for Pyrene and a pump type of oil can right on the workbench.

Now when the workbench is pushed up alongside a truck needing repairs, a mechanic is fully equipped with all tools. He is spared a 15-yard walk back and forth getting a tool, thereby cutting down time loss.

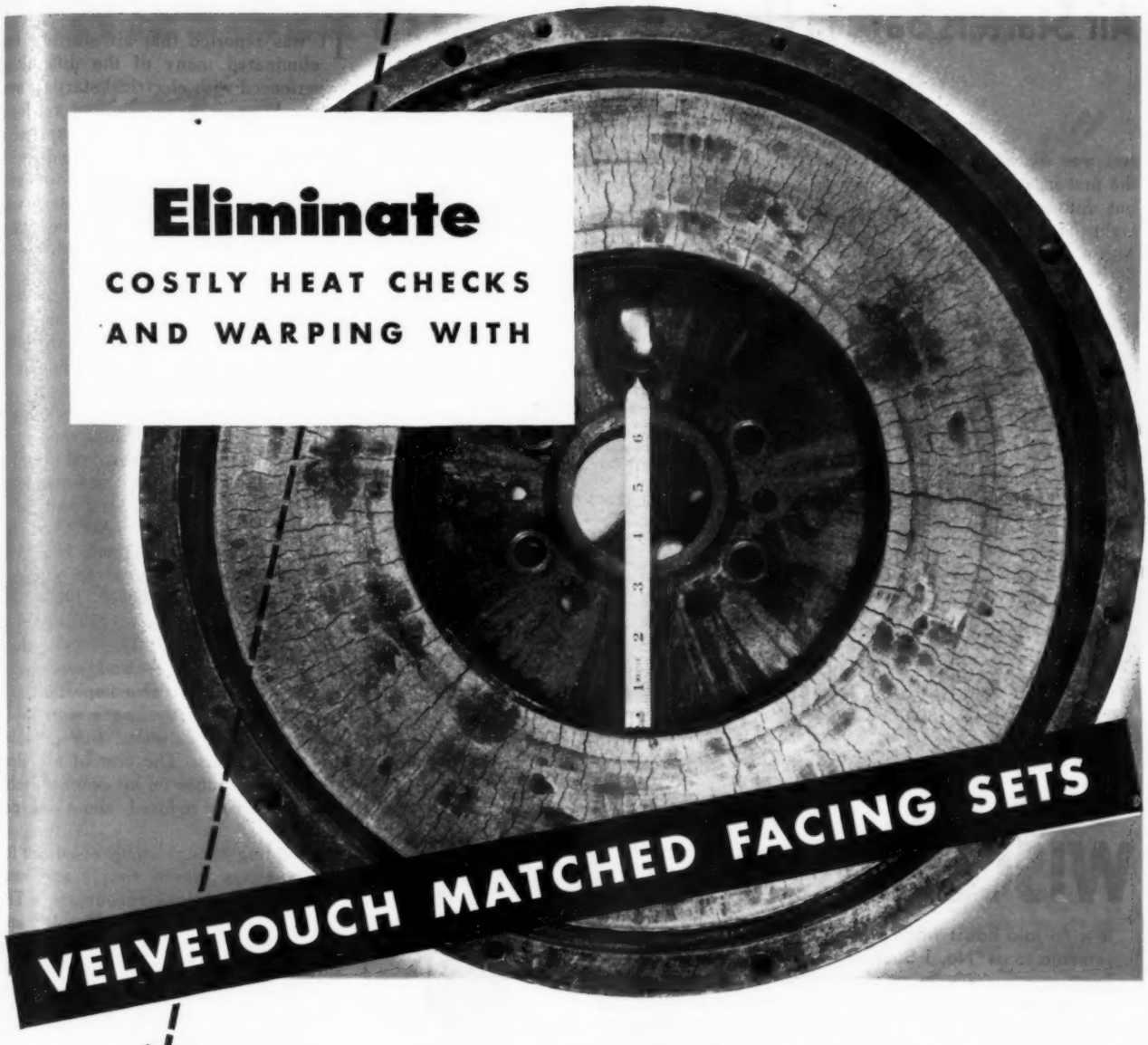
Tool Toter

A SMALL tool-toter that is a skeleton frame of angle iron 1 in. x 3/16 in. on four creeper casters carried a 300-lb supply of tools to any spot in the shop a mechanic needs them. This too was designed and constructed by a mechanic in the shop.

END

Please Resume Reading Page 66

PRESSING PROBLEMS ?
• Cylinder sleeves
• Industrial truck tires
• Broaching
• Bearings . . . etc.
There isn't a single job that the LEMPCO 150 ton ELECTDRAULIC can't do. It has brute power for heavy duty pressing, and finger-tip control for delicate gearing assembly.
A one-man operation for jobs formerly requiring two or three. Press easily controlled for "walking-in" cylinder sleeves at constant feed, or brute force for breaking loose "frozen" gears.
Power holds ram at pre-determined pressures. No spoilage due to unexpected surges of power. For details send coupon.
If you have an old press—let us appraise it for trade-in
LEMPCO
150 TON ELECTDRAULIC PRESS
For 35 years a leading builder of machine tools
LEMPCO PRODUCTS, INC.
Bedford, Ohio
Gentlemen: Kindly send details on your 150 ton ELECTDRAULIC PRESS.
NAME
ADDRESS
CITY
STATE



Badly warped and heat checked flywheels and pressure plates are expensive to replace. But you can completely eliminate this loss with Velvetouch Matched Facing Sets! Because—

Velvetouch Sets give you *four* friction material surfaces instead of two. They're designed primarily for *extra* heavy duty use. You get greater clutch capacity, plus positive assurance against frequent replacements resulting from overloading and driver abuse. In addition, Velvetouch enables you to reclaim damaged flywheels and plates for additional savings!

Detailed literature available now! For further facts, see your jobber, call our nearest branch, or write us direct.

Velvetouch

THE S. K. WELLMAN CO.

200 Egbert Rd • Bedford, Ohio

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* TORONTO, ONTARIO—The S. K. Wellman Co. of Canada, Ltd., 2839 Dufferin St.

** WASHINGTON—1101 Vermont Ave., N. W., Washington 5, D. C.

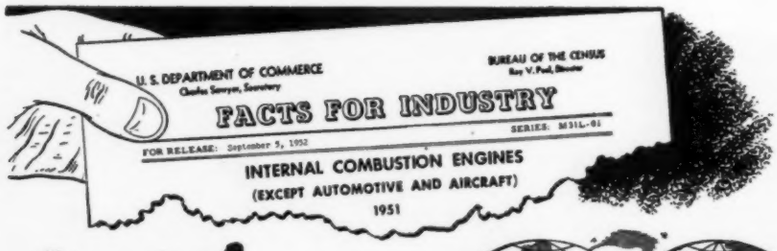
** EXPORT DEPARTMENT—8 South Michigan Ave., Chicago 3, Illinois

* SALES OFFICE AND WAREHOUSE ** SALES OFFICE

Air Starters Save in Electrical PM

Continued from Page 85

test was signalled just two years after the first installation when the company put into service at one of its mines eight 34-ton rear-dump Euclids, each with a pair of 9BM air motors to crank the twin 200-hp Cummins diesels. This was followed a few weeks later at another mine by a new fleet of 34-ton Euclids with twin 200-hp Model 6-71 GMC diesels, each with a 9BM air starter. Size of the air receiver had been reduced to 9 cu ft since this had proved adequate for starting requirements in the normal work schedule. Forty additional trucks with air starters were on order.

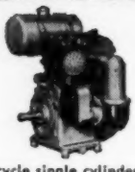


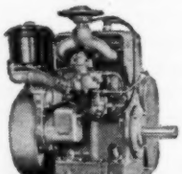
Proof of World Leadership for WISCONSIN HEAVY-DUTY Air-Cooled ENGINES

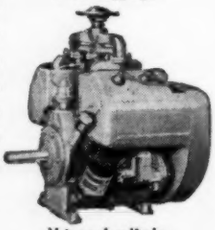
It is no idle boast when Wisconsin Motor Corporation is referred to as "No. 1 Source" for Heavy-Duty Air-Cooled Engines. Overwhelming verification of this statement is established through statistics presented in a Bureau of Census report, released on Sept. 5, 1952, covering the production of all types of internal combustion engines for the years 1950-'51 (except aircraft and automotive).

Based on figures contained in this report, 50.61% (1950-'51 av.) of all engines within a 11 to 175 cu. in. displ. range (approx. 3 to 40 hp.) were Wisconsin Air-Cooled Engines, exclusive of outboard marine and so-called "captive" engines built by various manufacturers for use on their own original equipment.

Here is positive *proof of preference* for Wisconsin Air-Cooled Engines by builders and users of power-operated equipment in all fields where dependable, heavy-duty power service is required. Preference based on such factors as adaptability of Wisconsin Engines to fit the *machine* and the *job;* easy starting and trouble-free air-cooling under all weather and climatic conditions; low-cost maintenance; ready availability of factory-trained servicing and original replacement parts . . . plus *outstanding performance.*


4-cycle single cylinder 3 to 9 hp.


2-cylinder models 7 to 14½ hp.


V-type 4-cylinder 15 to 36 hp.

It will pay you to specify "Wisconsin Power" for your equipment. Complete descriptive and engineering data on request.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

Advantages Proved

IT was reported that air starting has eliminated many of the difficulties experienced with electrical starting systems. First, it has permitted replacement of the complicated and expensive 12- and 24-volt electrical systems with the simpler, more economical 6-volt systems. The costly 12-24 volt battery was essential equipment for electric starting but, with the cranking job taken over by air, the reduced electrical requirements can easily be met by the generator which produces 75 amps at idle speed. Thus, the comparatively cheap 6-volt battery is in the line only as an accumulator and standby.

The 12-24 volt equipment took quite a beating on the rough iron range terrain and required a great deal of time-consuming, expensive maintenance. This not only involved parts and labor but also had the effect of taking trucks out of service. The 12-volt headlight bulbs, for example, are fragile and it was necessary to replace 1200 sealed beam units on a fleet of 170 trucks in one 6-month period. The 6-volt bulbs are both stronger and somewhat cheaper. There are also important savings in replacement of generators, voltage regulators, batteries, fuses, cables and other items. The cost of all electrical maintenance on air-cranked vehicles has been reduced about 70 per cent.

Providing enough compressed air for cranking has proven simple and easy under all conditions encountered. The trucks normally are in service day and night, stopping only for change of shifts, lunch hour, and maintenance. This involves an average of just six starts a day. On this schedule, the brake compressor easily keeps the air receiver supplied. If a truck is parked at the garage for a long enough period to lose its air, the tank is pumped up by the stationary garage compressor through an outside fitting on the truck's air receiver. If repeated stalls cause a truck to exhaust its air supply in the field, it is a simple matter to run another truck alongside and pump up the air tank of the stalled vehicle.

Cold weather starting is a major problem in an area where temperatures go far below zero. Experience has shown that after a truck has been parked overnight at 20 below zero, the diesels should not be turned over by any means until they have been warmed somewhat since forcing would just tear up an engine. Even after putting a torch to the pan, however, engines may be hard to start. In such cases, it is easy to hook the truck to the air supply and turn the engine over as long as necessary.

END

Please Resume Reading Page 86

CITIES SERVICE OILS WORK ON

"The Longest, Toughest Truck Haul in the World!"

FROM DULUTH, MINN. TO FAIRBANKS, ALASKA . . . 7000 MILES ROUND TRIP PER MONTH . . . IN TEMPERATURES RANGING FROM 100 ABOVE TO 70 BELOW . . .

Albert Herda

. . . trucker extraordinary, uses Cities Service "C" Series Oil in year round operation.

CITIES SERVICE

Quality Petroleum Products

SAYS ALBERT HERDA . . . "Hauling everything from beer to eggs . . . across every kind of country . . . through every kind of weather . . . I've used Cities Service "C" Series oils and have had the best of luck. I heartily recommend Cities Service Oils for unusually rugged service as well as the ordinary job."

HIS OWN SERVICEMAN ON LONG, LONELY HAULS . . . Besides driving, Herda handles all the jobs of truck maintenance on the road . . . everything from changing tires to checking the oil. During the summer when temperatures soar up over a hundred, "C" 300 Series SAE 30 gives him the long motor oil mileage and complete engine protection he must have.

BLOWTORCH HEATS CAB IN ALASKA COLD . . . Big bus heater not enough to heat cab in extreme cold. Blowtorch aimed at feet does job. Under such tough operating conditions, Herda depends on "C" 300 Series SAE 10 to give complete lubrication and engine protection. High quality Cities Service Products can serve best in your operation too.

NOW ...greater hoist payload capacity per dollar

MATCHED FOR EXTRA PROFITS

Rugged new St. Paul dump bodies are perfectly "teamed" for maximum output with the new extra capacity St. Paul hoists. They're huskier, tougher.

Check St. Paul before you buy!

Whether you need a single standard duty body hoist, or a fleet of heavy duty twins, you'll get *more payload capacity per dollar, per pound of weight in the new St. Paul line.* This is because St. Paul — pioneer builder of the first hydraulic hoists 40 years ago — has "scooped" the industry again with over *50 advanced engineering improvements no other hoist can match.* See these great new 5 to 28-ton capacity hoists and matching dump bodies at your St. Paul Distributor today, or write direct for free literature.

The hoist to see in '53!

QUICK FACTS

1. New "center-push" design means easier lifting, reduced hinge loads.
2. New equi-lift strut arms eliminate uneven stresses, prevent binding.
3. New tapered cylinder head reduces mounting height, increases leverage up to 25%.
4. New uni-flex subframe provides more strength with less weight.
5. New friction-free pump assures added power, lower oil pressures.

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St. Paul HYDRAULIC

Hoists & Dump Bodies • Refuse Loaders
Truck Petrols • Elevating End Gates

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☐ Hoists ☐ Dump Bodies

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Title _____
Employed by _____
Address _____
City _____ State _____
S-HBC-2R

Masking the "Flying Hoss"

Continued from Page 84

duction of the details of the wings and neck line of the "Flying Horse." This process can be handled by the ordinary paint shop without skilled labor and the copy will have those sharp, clean-cut edges that are characteristic of the lead foil masking process.

Our equipment obviously can't perform its proper function unless it is on the road hauling products. This process allows us to get the vehicle on the road in one day less time, and further, our painting program has cost us approximately 20 per cent less than when other masking methods were employed.

The process of paint application we use is commonly known as the "build-up" method. This enables us to mask off the red surface of the truck body to produce the red horse, then black paint (shield border), and subsequently the white paint (main body of the Socony shield or white letters) are applied on top of the red, thereby eliminating the small recesses resulting in the detail of the horse by the "inverted" method. This facilitates the elimination of dirt and traffic scum that tends to accumulate, so that a better-appearing copy is presented at all times.

Full Instructions

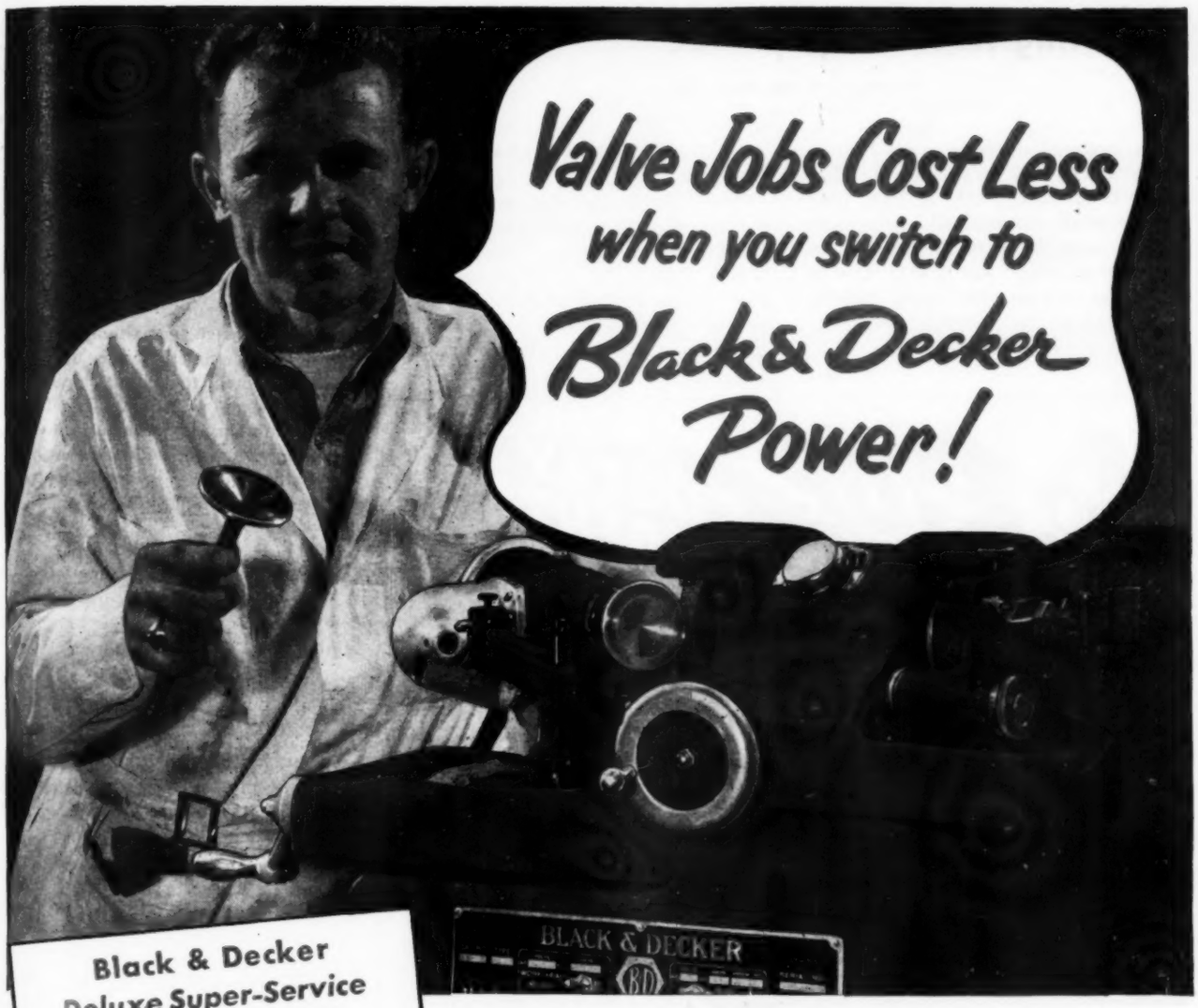
INSTRUCTIONS for general application covering the eight basic steps to be taken in using these masks is supplied each paint shop, and in addition, specific application procedure covering each type of mask required to complete the copy being applied is also fully explained, so that workmen can make no mistake in placing the proper sequence of masks and removing the correct tie points after the masks are in position.

It is our practice to start with the best equipment obtainable in the belief after careful analysis, that an investment in good quality means the greatest economy in the long run.

We have now had a full year's experience with this program, in addition to the experimental year, and have found the process not only adaptable and practicable in all areas, but also economical. The saving of approximately 20 per cent is particularly significant to us because there are over 2000 vehicles in the combined company, agent, and distributor fleets, and all of our marketing equipment must meet exacting appearance standards with emphasis on color, lettering, and body finish.

END

Please Resume Reading Page 85



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$360.00 complete!

Equipped for complete job, no extras to buy! Requires no complicated adjustments. Permits traverse grinding of any angle valve face from 0° to 90°. Handles all popular stem sizes and head diameters. Both wheels can be used for wet grinding.

SPEED *plus* precision . . . that's what you need to turn out accurate valve jobs without going overboard on costs or tying up fleet units. And that's what you get with a Black & Decker Valve Refacer!

This precision-built machine is engineered for factory-accuracy . . . has hypoid gears for smoothest grinding finish; 4-point bearing suspension on both work and wheel tables; bearing adjustment on feed screws with automatic end play take-up. It gives you such work-speeding features as smooth, abundant power from two B&D motors independently driving collet and wheel spindles; super-speed feed screws; easy-to-operate controls.

See your nearby Black & Decker Distributor now for a demonstration. Let him prove how a Black & Decker Valve Refacer can cut your maintenance costs! Write today for free catalog to: THE BLACK & DECKER MFG. Co., 624 Pennsylvania Ave., Towson 4, Maryland.

Selecting Reefer Equipment

Continued from Page 72

units, mounted similarly to the *Thermo King* units, require a mounting hole about 26 in. wide by 18½ in. high. They will maintain automatically a temperature between 35 to 40 deg with up to 60 door openings per day in normal use. The unit weighs 350 or 550 lb, depending on the addition of an electric motor for standby operation.

Hold-Over Plates

THE other major type of mechanical refrigeration uses a "eutectic" solution inside a flat, rectangular tank, the refrigerant freezing the eutectic which in turn absorbs the heat from the body. These tanks or hold-over plates, such as those manufactured by Dole Refrigerating Co. and Kold-Hold Mfg. Co., are usually mounted parallel with the body walls and/or ceiling. They are sometimes installed as shelves, but this type of installation requires care in loading to prevent damage to the plates and to maintain circulation from the plate surface.

Hold-over plate installations are usually used for delivery work where the vehicle returns to the garage at night. The plates range in thickness from 1 to 2⅝ in. and come in a variety of widths and lengths from a minimum width of 18 in. to a maximum length of 120 in. Available stock sizes can usually be adapted to almost any reefer truck or semi-trailer body installation. In determining plate size and thickness, manufacturers need to know the following information: (1) product to be carried, (2) temperature of the product when loaded, (3) minimum and maximum outside temperature, (4) average body temperature desired, (5) number of daily door openings and average time of each, (6) number of pick-up stops, (7) truck hours away from plant, (8) whether local or long haul, (9) inside dimensions of refrigerating compartment, (10) insulation thickness, (11) kind of insulation, and (12) number, size and location of doors.

Completely self-contained "package" units having a condenser-compressor unit and one or two plates are also available. They are easily installed in the front end of straight truck bodies by bolting them to the floor The Kold-Hold package unit requires only two holes in the floor for air intake and discharge and, operating in the same manner as the larger plate installations, will refrigerate a properly insulated body at a temperature of from 45 to 50 deg for a day's run.

Dromgold and Glenn's *Coldmobile* "LH Series" are of similar design. Instead of floor holes for ventilation, these units have a static condenser mounted in the forward body wall above the cab and utilize a "ram" air effect while the truck is in motion. The larger of these two units, for below zero hauling, also has a 6-volt blower fan for circulation during the delivery run and two shop powered fans to assist in cooling during the freezing period.

Power Sources and Take-Offs

TRUCK mounted power sources for the compressor-condenser units are usually one of three major types or a combination thereof; (1) gasoline engine, (2) electric motor and (3) power take-off.

Hold-over plate installations are usually of sufficient capacity so that the condenser-compressor unit freezes the

(TURN TO PAGE 116, PLEASE)

STOP COSTLY SKID ACCIDENTS
Penetred®
THERMODUCTOR
SKID-CONTROL COILS
FOR ALL YEAR 'ROUND
Penetred THERMODUCTOR Steel Claws give you Skid-Control and MAXIMUM DRIVING SAFETY all year 'round . . . Claws that cut thru Ice and Snow in winter, and Slick road film in summer, for INSTANT ACTION . . . DEPENDABLE ACTION. No precious time wasted, no turning on the switch, and waiting for sand or grit . . . just apply the brakes, for SAFE Straight Line Stops . . . or step on the gas, for FASTER Starts without side Sway or slip.
COOLER RUNNING
Penetred THERMODUCTOR Coils also reduce excessive heat that destroys vital tread rubber in regular tires, by conducting it out of the shoulder area . . . to give you the COOLEST running tire ever known.
FEWER PUNCTURES
Penetred THERMODUCTOR Coils act as an armour plate and reduce punctures from 75 to 90 percent, by shunting off broken glass, nails and many other objects that otherwise cut the carcass, and keep it in better condition for the second and third retread . . . for longer mileage. Some records show from 35 to over 100 percent increase.
Get a Free Demonstration
No words can describe the spectacular performance of Penetred Skid-Control . . . only your foot on the Brakes or on the Gas can tell the story, for there is nothing in the world that gives you the "Feeling of Security" that Penetred gives you all year 'round . . . so get a Free demonstration today . . . in the meantime write for "The MIRACLES of Penetred."
OVER 3000 STEEL CLAWS IN EVERY TIRE
ASK ANY TIRE SERVICE STATION ABOUT "PENETRED"
PENETRED CORP. MARSHFIELD WISCONSIN

THE ENGINEER'S REPORT

DATA

PRODUCT Chevron Starting Fluid

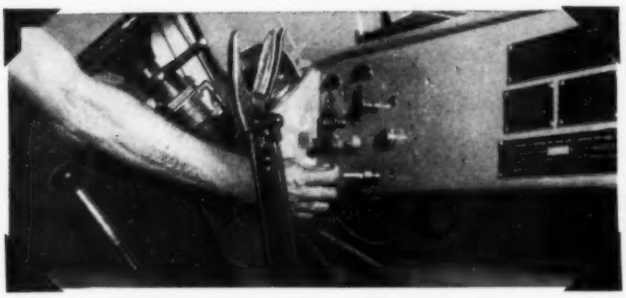
UNITS Diesel engines

CONDITIONS Sub-zero temperatures

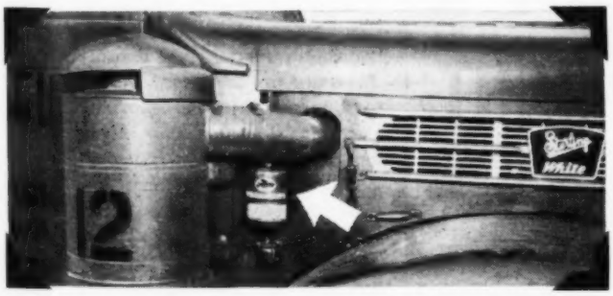
EQUIPMENT Permanent dash-mounted primers—bulk storage tanks

FIRM Picco Logging Co., Montesano, Wash.

Diesels start instantly at 20° below zero!

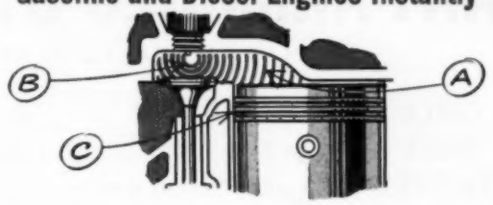


PRIMED WITH CHEVRON STARTING FLUID, diesel engines in Picco Logging Co. trucks "start instantly, even in winter temperatures that sometimes reach 15° and 20° below zero," according to E. W. Picco, owner. Previously, the company lost from 10 minutes to an hour a day in starting each truck. And often, when left out overnight, trucks had to be towed before they would start. The dash-mounted pump shown above is worked once or twice as the engine turns over, forcing fluid through atomizers into manifold.



MOUNTED NEAR THE ENGINE, this storage tank holds bulk Chevron Starting Fluid. It is also available in 7- and 17-CC gelatin capsules. These capsules are placed in a puncturing tool, and fluid is pumped into intake manifold the same way as from the central bulk tank shown. Each type of dispensing equipment is suitable for both diesel and gasoline engine and is available from your starting fluid supplier. Chevron Starting Fluid is approved by leading engine manufacturers.

How CHEVRON Starting Fluid Starts Gasoline and Diesel Engines Instantly



A. Atomizes in lowest temperatures and provides powerful, easily ignited vapor in combustion chamber.

B. Pressure, or the weakest spark, fires mixture—turns engine and heats air for regular fuel mixture.

C. Contains lubricant and additives—inhibits cylinder wear, and ice formation in primer equipment.

HOT NEWS — COLD ENGINES

FREE BOOKLET gives you more facts on Chevron Starting Fluid—shows where it should be applied in different type engines. Write or ask for it today.

CHEVRON STARTING FLUID

TRADEMARK REG. U.S. PAT. OFF.

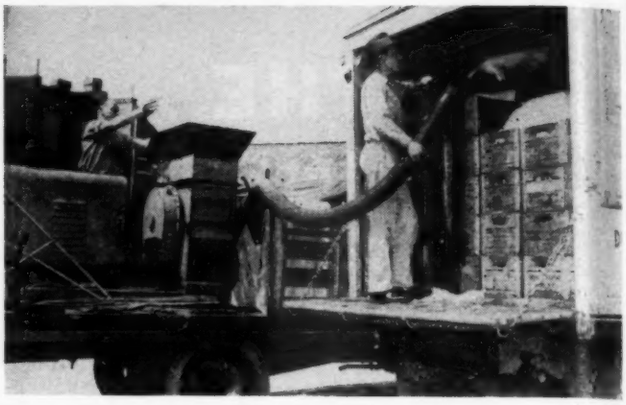
FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any of the companies listed below.

STANDARD OIL COMPANY OF CALIFORNIA • San Francisco 20
THE CALIFORNIA OIL COMPANY • Barber, New Jersey
STANDARD OIL COMPANY OF TEXAS • El Paso
THE CALIFORNIA COMPANY • Denver 1, Colorado

...Reefer Equipment

Continued from Page 114

eutectic solution at night and the plate will "hold over" the cold during the day's deliveries without further refrigeration. The usual power source is a 110 or 200-volt electric motor for plugging in to a shop power source at night. It may be plugged in for shorter periods during the day when additional refrigeration is needed. Dole and Kold-Hold plate installations can also be obtained with gasoline engines for use when the truck will be on the road for a longer period without being able to stop and "plug in" anywhere. In some cases weight saving can be obtained through the use of lighter weight plates and a gasoline engine or power take-off powered consenser-compressor unit.



With crusher and singer mounted on separate truck, wet icing is easy

In operations where the vehicles are sure to return to the same garage every night, an alternative system is to have a large, stationary refrigerating unit to which the truck plates are directly connected by hoses, eliminating the need for individual truck compresser-condensor units.

The blower and cooling coil type of refrigeration usually has to be in continual operation while under load, has a very short "hold over" time. These types are available with up to a 4-cyl gasoline engine, usually with an electric motor for standby operation. Some *Thermo-King* models have electric motors only for use in short haul work. Larger *Arctic Traveler* models use a gasoline engine powering an electric generator which in turn operates an electric motor as the power source for the refrigerating unit. For standby operation, the motor may be plugged directly into a regular line power source.

An interesting development in the field of truck refrigeration is the use of power take-offs for operating the reefer unit. With the exception of the Dromgold and Glenn's cooling coil and blower unit and hold-over plate package, the units described in this article are usually operated independently of the vehicle engine, as described above, but power take-offs seem to offer an alternative.

Standard equipment on the D. and G. units is a compressor mounted under the engine hood driven by the fan belt whenever the engine exceeds idling speed. Other power take-offs, such as those manufactured by Hydro-Aire Corp. and Kold-Hold Mfg. Co., make it possible to eliminate the separate gasoline engine and use the vehicle engine as the power source.

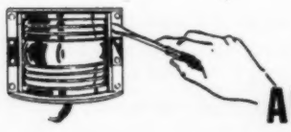
(TURN TO PAGE 118, PLEASE)

...and we mean STOP!

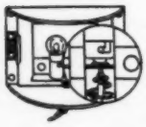
For Labor-Free, Trouble-Free Service and Long Life...
THE CHEAPEST STOPLIGHT MADE
DEMAND THE *Original* TRIPPE
GIANT ARMORED STOPLIGHT
LEGAL EVERYWHERE

CHECK THESE FEATURES
1 ✓ Boiler Plate Body
2 ✓ 25 sq. in Lens
3 ✓ Quick Two-Hole Mounting
4 ✓ Flat Back, Inside Socket
5 ✓ 32 C.P. Bulb
6 ✓ 12" x 3" Metal Reflector

and Now to Announce Its Sensational NEW Companion



THE TRIPPE GIANT
ARMORED CLEARANCE LIGHT
(35% Larger—More Light)



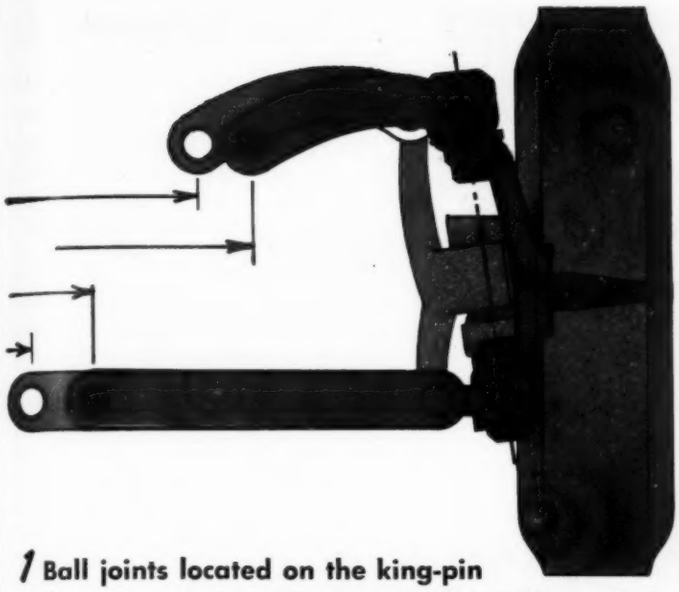
A twist of the wrist and the lens is out. No screws, No bolts, No time. No trouble.

DESIGNED BY TRUCKERS
to save labor, money and expensive replacement.

Built like a brick, stainless steel socket spring; will never fail; snap-in and snap-out lens saves big money and labor. "EQUIP WITH TRIPPE" and kiss your lighting troubles goodbye.

FREE! Send jobber's name on your letterhead and we'll send you a Trippe Clearance Light absolutely FREE, postpaid.

TRIPPE MANUFACTURING CO.
609 W. LAKE STREET, CHICAGO 6, ILL.



1 **Ball joints located on the king-pin line move inner pivots outward, creating extra inches under the hood for wider engine design.**

Ball Joint Suspension

1 **GIVES MORE SPACE FOR WIDER ENGINES**

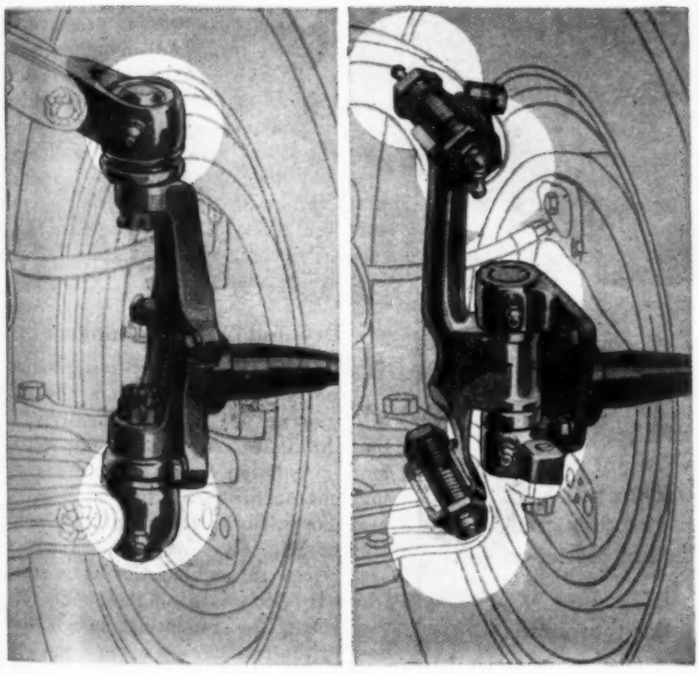
2 **REDUCES LUBRICATION SERVICE 75 PER CENT**

3 **MAKES FRONT WHEEL SUSPENSION INSTALLATION EASIER AND FASTER**

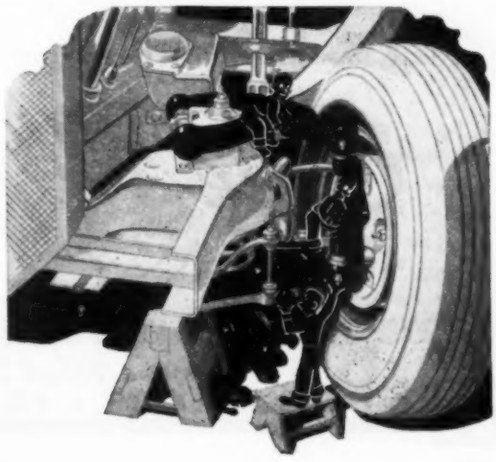
ONE GLANCE at the illustrations and you see how valuable inches are saved under the hood! Quick comparison points out the number of lubrication services eliminated. But these are only small points in the over-all story.

Thompson's Ball Joint Suspension also eliminates front suspension bind. It improves steering; makes handling easier; and prolongs service life. Through weight savings, parts reduction and compact design, Ball Joint Suspension speeds assembly. And in servicing, the equivalent of a complete rebushing job can be done in half an hour because removal of front wheels and bushings, bleeding the braking system and normal realignment are unnecessary.

Let Thompson's "ENGINEERED STEERING" experts help you solve your steering problems. Inquiries from all automotive makers are welcome at Thompson's Detroit Division. Call us at WA 1-5010.



2 **Lubrication points are reduced from 12 to 4 by eliminating upper and lower standard threaded bearings, knuckle support, king-pin and its bushings.**



3 **Only three simple operations are required to assemble or remove the compact service package from the suspension.**

Thompson Products, Inc.

DETROIT DIVISION

7881 CONANT AVENUE • DETROIT, MICHIGAN

The magnificent strength of Percherons has its counterpart in Erie Wheels . . . built for the job . . . The Tubular-Spoke Design . . . preserves inherent balance . . . no pockets to catch and accumulate road dirt . . . The fan-like action of spokes cools brake drums and tires . . . Light Weight permits hauling greater payloads . . . Easier tire changes with Demountable rims . . . Erie Brake Drums . . . worthy components . . . made of alloy iron . . . high coefficient of friction . . . minimum heat check . . . and longer life . . .

Erie Wheels and Brake Drums perform like the thorobreds they are . . .

Specify Erie Wheels and Brake Drums

Erie Wheels

ERIE MALLEABLE IRON COMPANY

Automotive Wheel Division

ERIE • PA.

552

. . . Reefer Equipment

Continued from Page 116

The Hydro-Aire *Speed-O-Matic* take-off is mounted in the chassis to the rear of the cab. It is belt driven and governor controlled, designed to deliver a constant speed at its output shaft regardless of truck engine speed. For straight truck use this unit is connected directly to the compressor-condenser unit for use with hold-over plates or blower and cooling coil installations. When used for semi-trailer refrigeration, the power take-off drives an electric generator, also mounted in the chassis, that supplies current to the compressor-condenser unit mounted on the trailer, either under the frame or on the front. It can also be used for cargo heating and has an electric motor standby as optional equipment.

The Kold-Hold *Kold-Trux* unit can be installed to operate on propeller, crankshaft, power take-off or live axle drive. As in the *Hydro-Aire* unit for straight trucks, power is transmitted directly from the chassis-mounted take-off to the refrigerating unit. Trailer operation is through a live axle drive installation, making the trailer independent of the tractor. A hydraulically-operated disc clutch provides gradual acceleration of the compressor whenever the truck is running and instantaneous release whenever the foot clutch is depressed for shifting.

Dry and Wet Ice Bunkers

NON-MECHANICAL refrigeration can be obtained through the use of dry or wet ice bunkers, usually with the addition of blowers to obtain maximum circulation of the cold air. Leading manufacturers of dry ice bunkers are Foster-Built Bunkers, Inc. and Hunter Mfg. Co. Foster-Built bunkers are spaced throughout the body area, while Hunter's is a single bunker arrangement for mounting inside the nose of the trailer.

For semi-trailers, four Foster-Built bunkers are usually used, two in the front and two in the rear. Another method of approximating requirements is to use one bunker for every 10 ft of trailer length. The bunkers are ceiling mounted, aluminum shells with a sirocco fan for air circulation. Each bunker will hold four 50-lb blocks of dry ice, giving enough space for sufficient dry ice for below zero hauling.

A smaller bunker has just been announced by Foster-Built especially designed for small delivery bodies, such as the Vanette and Metro types. For handling flowers and plants, the new

(TURN TO PAGE 120, PLEASE)

Complete Coverage

IN HEAVY-DUTY CHROME SETS

• You'll get longer life, greater economy with Hastings Chrome—because each set is *Motor Engineered* for replacement service, for your specific requirements.

Motor Engineering brings you smooth, hard, cylinder-saving chrome where you need it . . . with the right combination of Hastings companion rings . . . for your make and model, for your engine conditions and operating needs.

For more than six years, leading fleet men have specified Hastings Chrome. They've found complete coverage in heavy-duty chrome sets. They're getting more miles per installation, greater operating economy.

Use Hastings Chrome on your next ring job.

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STEEL-VENT PISTON RINGS

Chrome Faced for Heavy-Duty Service

TWO CHROME COMBINATIONS FOR TRUCKS AND BUSES

Hastings 2C Sets are recommended for re-ring, re-sleeve and re-bore. Each set is Motor Engineered to the specific engine, and each incorporates the famous Steel-Vent Chrome oil ring. Companion rings include regular and chrome types, depending upon the operating characteristics of the engine. In Hastings 2C, you have one set which handles every cylinder condition.

Hastings CT Sets—for those who prefer chrome top compression rings and cast iron oil rings—for re-bore and re-sleeve installations. The top compression rings are chrome-faced. Other rings are cast iron type. Oil rings are either plain cast iron or inner-spring type, depending upon operating characteristics of the engine for which the set is Motor Engineered.

HASTINGS MANUFACTURING COMPANY
HASTINGS, MICH.; HASTINGS LTD., TORONTO
Piston Rings, Spark Plugs, Oil Filters, Cords, Drout

... Reefer Equipment

Continued from Page 118

unit can be supplied with a sealed dry ice compartment with an outside vent for the carbon dioxide gas. It measures 10 by 13 by 32 in. long, weighing about 30 lb.

The bunker unit made by Hunter weighs 300 lb, holds 600 lb of dry ice and is mounted in the forward end of the vehicle body. It is used largely in semi-trailers although it is equally effective for straight truck use. It is 19 in. deep, 48 in. wide and 75 in. high, with three dry ice shelves completely sealed from the cold air stream The dry ice is inserted from the outside through a door in the trailer without touching the cargo. Air circulates over the cooling fin equipped bunkers and is pushed over the cargo by two fans. A thermostat in the rear of the body controls one of the fans to keep the required temperature.

The carbon dioxide gas may be vented to the outside or discharged through the cargo area as desired. During road operation the fans are operated by either 6 or 12-volt vehicle electrical systems and for layovers an accessory power unit is available for connection to any 110 volt AC power source. Temperature control from zero to 60 deg is provided. The unit is also available in combination with the Hunter Model No. UH510 heater to provide protection in cold weather operation.

A wet ice bunker unit is available from Air Induction Corp. Mounted in the forward end of the body, similar to the hold-over plate package units, they are designed to use 100 to 200 lb of water ice per day in maintaining a temperature of from 40 to 44 deg in insulated truck bodies up to 600 cu ft. The unit has an intake duct at the top with warm air being sucked in by a 6-volt motor operated fan. The air is cooled and washed by being pushed over the large blocks of ice and returned to the truck body at floor level.

Crushed Wet Ice

ANOTHER method of cargo refrigeration using water ice utilizes ice crushers and slingers similar to those manufactured by Link-Belt Co. Using this equipment, which is available in portable or stationary models that can be mounted on the loading platform of another truck, block or chunk ice is crushed and reduced to a small to fine mixture and propelled through a flexible hose in a high velocity jet. The crushed ice is directed over and between cargo stacks and layers, completely blanketing them. The slowly melting ice maintains safe temperature and preserves the moisture content of the produce.

Service and Repairs

LIKE any other piece of mechanical equipment, reefer motors, engines, compressors, etc., are subject to wear and eventual breakdown without a preventive maintenance program. In selecting equipment, be sure it fits in with available repair and service facilities either in your own shops and/or in other garages in your operating area.

Index to Sources

Air Induction Corp., New York City.
American Mfg. Co., Inc., Montgomery, Ala.
Carrier Corp., Syracuse, N. Y.
Dole Refrigerating Co., Chicago.
Dromgold and Glenn Division, Union Asbestos and Rubber Co., Chicago.
Foster-Built Bunkers, Inc., Chicago.
Frigidaire Division, General Motors Corp., Dayton, Ohio.
Hunter Mfg. Co., Cleveland, Ohio.
Hydro-Air Corp., Waukesha, Wis.
Kold-Hold Mfg. Co., Lansing, Mich.
Lehigh Mfg. Co., Lancaster, Pa.
Link-Belt Co., Chicago.
U. S. Thermo Control Co., Minneapolis, Minn.

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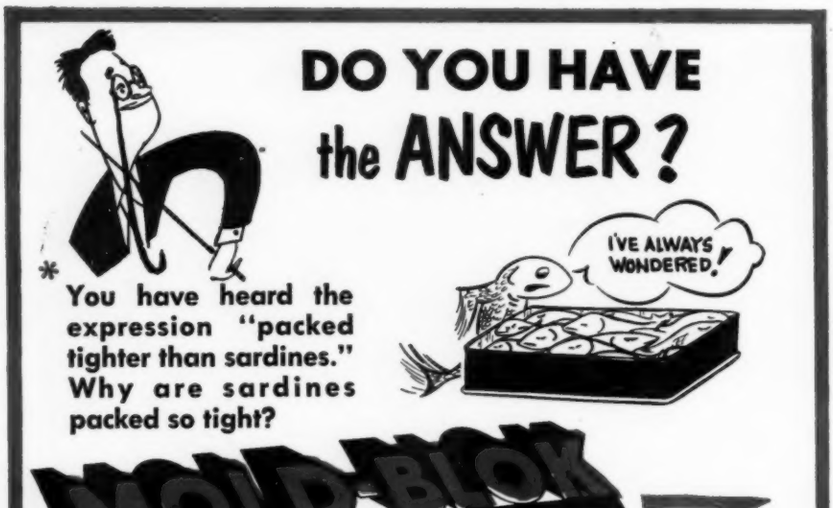
Please Resume Reading Page 73



* You have heard the expression "packed tighter than sardines." Why are sardines packed so tight?

Years of research and experience have resulted in giving you all the answers to your heavy-duty braking problems. Mold-Blok is available in a friction range to give the best possible service for all jobs — old and new. You'll find Mold-Blok thoroughly dependable — proven best by test.

* Because the oil is more valuable than the sardines.

MOLDED MATERIALS DIVISION
OF
CARLISLE CORPORATION
RIDGWAY, PA.

Transit Pars Challenge Fleetmen

Continued from Page 69

Seat (or ton) miles operated per maintenance man hours.

Seat (or ton) miles operated per road failure.

And there were a great many more. But in each case the committee decided that these were supplemental rather than basic pars—that each would need adjustments to fit individual cases. The goal was to produce Pars that, at least for the local bus operator, would be rigid, inflexible standards on which he could base his operations. Then, if he found he could not make the standards, the alternatives lay between more efficient management, increased revenue or failure.

Flexibility Not Required

FOR this reason, the aforementioned refrain, "But our operation is different," does not apply to Transit Pars. Based on the revenue from the urban transit operator's common product—seat miles, they are ratios of costs to revenue that represent a fair return and good operation and apply to all urban transit companies regardless of cost items that might face one company and not another. This would include such circumstances as snow and ice removal, local taxes, traffic congestion, etc. In putting the Pars to work, efficiency of operation—proper relationship between costs and revenue—is attained by such means as replacement of obsolete and inefficient vehicles, evaluation of employees and their work, revision of operating routes and adjustment of fare schedules and not by claiming exception to the Pars.

In comparing Transit Pars to a company's actual ratios, the ATA's Standard Pars committee calls attention to these important "ground rules" which must be followed if Pars are to be an effective means of comparison:

(1) Only revenues, costs and expenses in connection with the operation of vehicles for carrying of passengers and properties necessary to support, maintain or service such vehicles are to be included.

(2) Any costs or expenses, including salaries or wages of personnel, in connection with properties or investments held for income or in connection with planning or construction of capital additions or improvements are to be excluded.

(3) The Pars have been developed on the basis that the ratio of investment to annual gross is one to one.

The Industry Challenge

THAT, in a basic nutshell is the story of Transit Pars to date.* But before signing off, lets consider the Pars idea as a challenge to the intercity bus operators and to *all forms of truck operators*. Is there not here the ground work, the basic research for the establishment of similar, though probably different, Pars for each of the major vocational categories?

Seven months ago, we mentioned that the Milk Industry Foundation, the U. S. Wholesale Grocers Assn., and the American Gas Assn. were among the groups working on the problems. Would

(TURN TO PAGE 124, PLEASE)

* Full report can be obtained from American Transit Assn., 292 Madison Ave., New York 17, N. Y.

SIGNS IDENTIFY!

A HEALING HAND...

AUTHORIZED AIRCO DEALER

ONE call
ONE order
ONE invoice
For every welding and cutting need!

TAKE TORCHES AND REGULATORS, FOR INSTANCE... Your authorized Airco dealer maintains a full supply of moderately priced outfits for welding . . . brazing . . . heating . . . cutting . . . or soldering. If no standard set-up meets your particular requirements, he can recommend the proper combination of units — and assemble your special-purpose outfit from stock.

Every item is backed by the AIRCO reputation . . . and delivered promptly to your door!

Whether you want to buy . . . or simply seek information, check your Airco dealer first! Consult your classified phone directory (under Welding Equipment and Supplies)...look for the famous sign.

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AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
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REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Offices in Principal Cities

AT THE FRONTIERS OF PROGRESS YOU'LL FIND

AIR REDUCTION PRODUCT

Transit Pars Challenge

Continued from Page 123

it not now be possible for American Trucking Association's common carrier, contract carrier, petroleum transporters and other conferences; NAMBO's intercity bus operators; the various private truck operator associations and the many subdivisions thereof, to work toward similar goals?

Undoubtedly there would be major changes in the Pars allocations. Despite articles which have appeared in COMMERCIAL CAR JOURNAL from time to time* we suspect it still comes as a surprise to the average truck maintenance man to realize that a good city bus operation is based on 30.5 maintenance man hours per 1000 miles, and an average of one mechanic for every 3½ busses. Interior cleaning accounts for a considerable part of this figure, while the rigors of continuous stop and go operation of relatively heavy-duty equipment account for another substantial share.

Thus maintenance would probably be allocated a lower percentage of the total for most truck operations as compared to the city buses. But the Pars could also provide other interesting comparisons. It could well be the man who pats his own back for a lower-than-standard maintenance ratio might be the very same man that had a higher-than-standard accident figure. The same line of reasoning could very well develop in the company that had too low an apportionment for "supervisory personnel"—meaning, no safety department—and again too high an accident ratio.

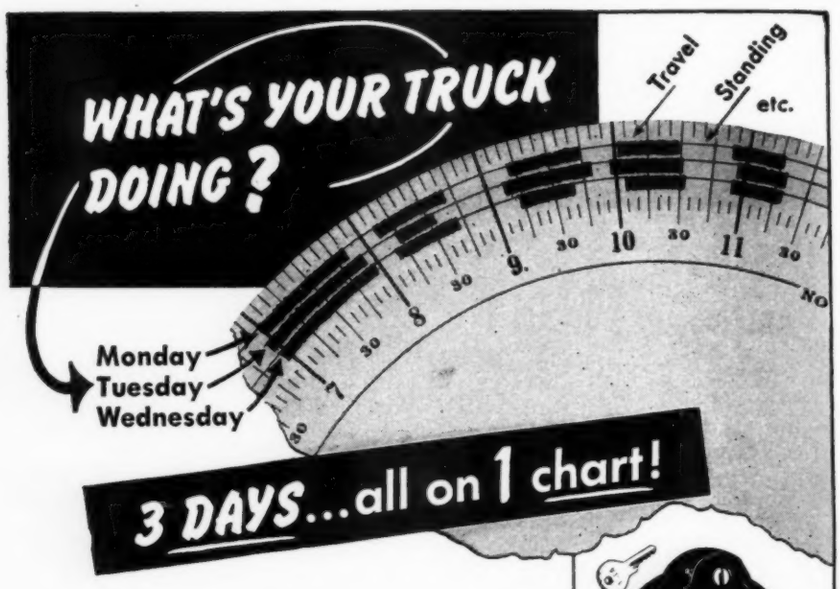
All of which points to the fact that standard pars for the trucking industry would require arduous research—but could produce comparisons of infinite value to all.

For its own part, COMMERCIAL CAR JOURNAL stands ready to act as a clearing house for ideas, as an intermediator between groups, or in any other way that may be indicated. Already we are making plans for independent research in this field. We solicit your comments.

END

Please Resume Reading Page 70

* One of them—Sept., 1950, P. 54.



Mr. Truck Owner—

That's what we offer you.

Servis Recorder, Model TRT, records the travel time—the busy time—of your truck for 3 days, and 3 nights, *on one chart.*

Think of it! You wind the clock, put in the chart, turn the key in the Yale lock, and never touch it again for 3 days!

A *big* chart it is, too, 6 inches in diameter . . . a large-scale record . . . no need to squint, or use a glass.

Over the week-end: You can still change charts daily if you want to, but when the week-end comes along this Model is able to take care of it.

Now isn't this the obvious way to manage motor trucks? Write for full information. The Service Recorder Company, 1375 Euclid Avenue, Cleveland 15, Ohio.

SERVIS RECORDER
Model TRT
(3-Day Model)

It's the same simple instrument, attached to the truck the same simple way: just 3 screws or bolts. "You could nail it on and it would work."

7-day MODEL
Where necessary it is available, at extra cost.

The Servis Recorder
TELLS EVERY MOVE YOUR TRUCK MAKES

Three Shoe Brake . . .

Continued from Page 81

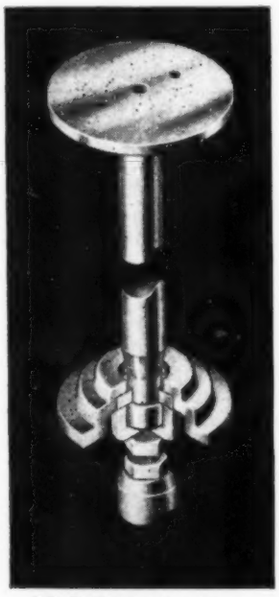
cylinders has an "O" ring on the outer periphery to provide an effective seal.

Each shoe is so articulated as to contact the brake drum completely and with the same uniform pressure. Shoe actuation is done by means of a lever exerting pressure on the shoe with a multiplication of three to one. Uniform unit pressure on the brake drum results in maintenance of drum concentricity, elimination of high pressure areas, heat checks and brake drum distortion. Longer drum life and greatly reduced lining wear are claimed.

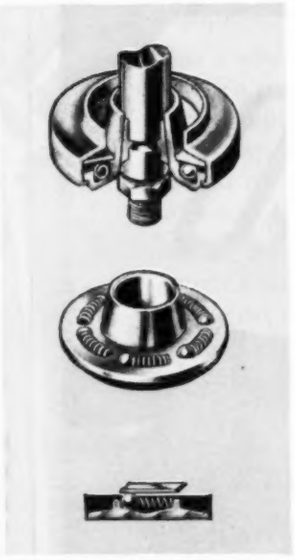
This brake system is a self-contained package and can be so designed as to effect interchangeability with any existing brake installation. All shoes, levers, pins, etc., are alike and interchangeable. This means that the standard parts can be assembled on both right and left hand wheels without change, thus reducing service stocks and simplifying maintenance operations.

END

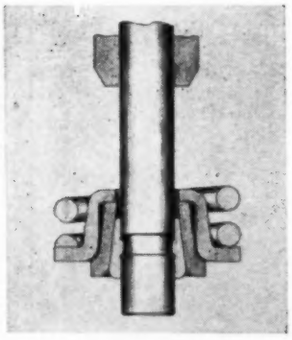
Please Resume Reading Page 82



ROTOVALVE, release type.



ROTOCAP, positive rotating type.



Friction type (Ford)

Your **TP** jobber

is **VALVE ROTATION**

HEADQUARTERS

VALVE ROTATION was pioneered by Thompson Products and has been called "*the hottest development in the original equipment field.*" Over 50 automotive builders have already turned to valve rotation as the new way to lengthen valve life. 41 of these manufacturers have adopted the Thompson ROTOCAP—the only valve rotator with *positive* turning action—approximately 6 degrees every time the valve opens and closes—the rotator that increases valve life 2 to 5 times. *With the* ROTOCAP *you set the valve clearance just as you've always done—that's ALL.*

Earlier, in 1938, TP pioneered and introduced the release-type ROTOVALVE which is next to the ROTOCAP in original equipment adoption. Thompson also manufactures friction-type (Ford) valve rotators.

So you can get ALL THREE types of valve rotators from your Thompson Jobber. Go to him—he is "*Valve Rotation Headquarters*" in the automotive maintenance field.

HAVE YOU SEEN

"HOT STUFF"

TP's new color sound movie?
If not, ask your Thompson Jobber.

See your Thompson Products Jobber

SERVICE DIVISION
2209 Ashland Rd., Cleveland 3, Ohio

"Weldowns" for Wood Floors

Continued from Page 73

Thus, the random width of the final board is easily laid into place with no difficult cutting or fitting.

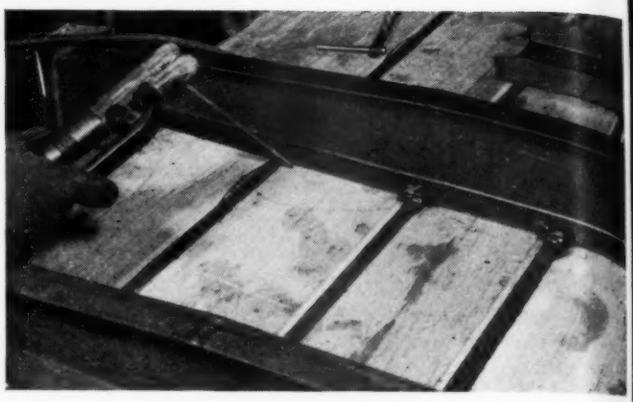
With this construction the boards are free to expand or contract under moisture conditions while still confined within the fastening condition.

It is said that the actual number of board feet of lumber is reduced from 10 to 15 per cent since a total of one inch of coverage width is picked up for each joint due to elimination of tongue and groove joints.

Because of frequent welds to the cross sills additional strength and rigidity to the sills is provided. A vibration-proof joint is provided at each intersection where a Weldown passes. Because of the positive union and the continuity of the elements in landing mat fashion, unequal cargo loading pressures distribute themselves more evenly and provide for a stronger type floor for fork lift work.

END

Please Resume Reading Page 74



After floor is complete, cross sills are clamped in place and then welded to strips at each joint

Photos courtesy of Thornton Mfg. Co., Phila.

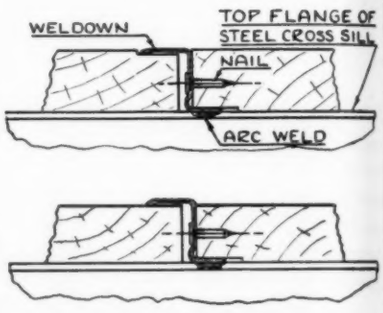


Fig. 2 (top). Weldowns fit into routed groove for smooth top surface floor

Fig. 3 (above). Without routing, Weldowns form skid strip to protect floor

"Out with it, Wilcox . . . What's the beef this time?"

UNIVERSAL JOINTS & CHASSIS PARTS
TRADE NEAPCO MARK ®
This great trademark means–
A complete line.
Finest materials.
Exact manufacturing.
Continuous inspections.
Uniform packaging.
Strategic warehousing.
NEAPCO PRODUCTS INC., POTTSTOWN, PA.

SURE...I'M A CAPITALIST!

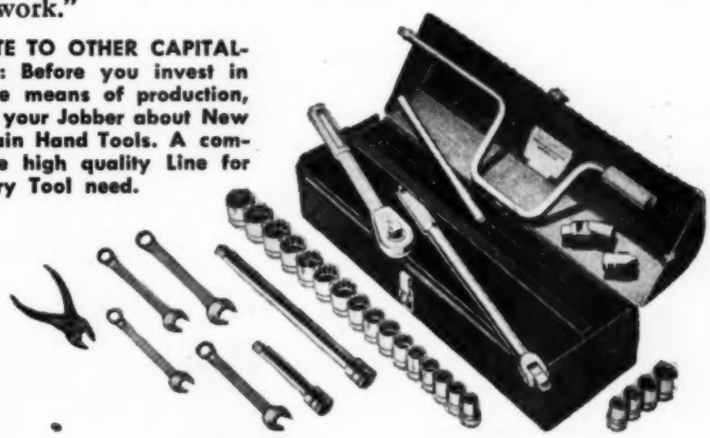
"Being a mechanic, I like to take things apart and see what makes 'em tick. Now, you take that word Capitalist apart . . . the dictionary says it means — 'a man who has capital, owns the means of production, or stock in trade'. To me it's just a six bit word that says here in the U.S.A. any man can become a capitalist, and quick!

"That's why we've got millions of capitalists in this country, and I'm a good example, because I've got everything it takes . . . my 'capital' — a few bucks in the savings bank . . . my 'means of production' — the New Britain Hand Tools I own . . . and my 'stock in trade' — the know-how to use those Tools at my job in the shop.

"Sure, I work hard . . . I'm really the 'dirty' capitalist the Commies talk about . . . because I get my hands dirty, a smudge on my nose and a little oil in the eye occasionally. But, I'm doing the good job I like, not because someone says I must. I don't want a medal from some commissar, or my name in their controlled press as the winner of some screwy five year plan. Those things are no good at the corner grocery. All I look for is the chance to make a decent living in a free country like ours. And, while I'm working at my job I'm also working at keeping it that way. Let's keep our American system — and work to make it better.

"Hand me that New Britain Ratchet . . . I've got to get back to work."

NOTE TO OTHER CAPITALISTS: Before you invest in more means of production, ask your Jobber about New Britain Hand Tools. A complete high quality Line for every Tool need.



NAPA Assurance of Quality

New Britain HAND TOOLS

GREATER STRENGTH • BETTER FIT

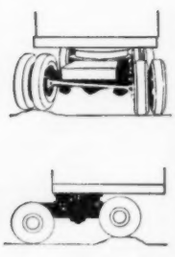
THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

WAYNE CRANE MODEL 20

"Levels Itself"

Wayne Crane Model 20—
- 10-ton wheel mounted Magnet Crane
- Self propelled—one man operated
- 10 MPH Travel Speed
- Short wheel base for "close" operation

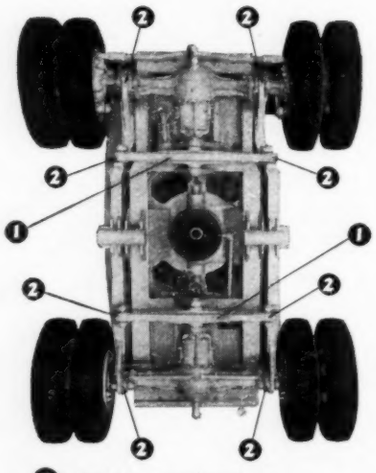
with HENDRICKSON TANDEM EQUIPPED CHASSIS



Here is an unusual application of a Hendrickson Tandem Suspension.

This self-leveling chassis automatically provides maximum stability in any position of swing or on uneven ground, for lifting or digging at full rated capacity. Use of Hendrickson equalizing beams and ball and socket joints makes this possible.

On highway—off highway; standard or special application — whatever your suspension problem, Hendrickson Tandems and Hendrickson design experience can help you. Consult Hendrickson now.



1 Hendrickson equalizing beams

2 Locations of 8 Ball and Socket joints

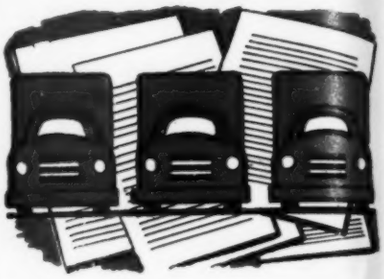
HENDRICKSON TANDEM

Follow the Leader!

HENDRICKSON MOTOR TRUCK COMPANY

8001 West 47th Street • Lyons (Chicago Suburb) Illinois

FLEET NOTES



Ryder Truck Rental System, Inc., Miami, Fla., has purchased **Great Southern Trucking Co.** It will continue to operate under the present name and adds to the Ryder fleet over 1000 vehicles.

Associated Transport, Inc., New York City, gives its maintenance men a big pat on the back in a recent issue of its house organ, **AT'er.** It tells how their cooperation and know-how keep the trucks rolling.

Ward Trucking Corp., Altoona, Pa., has a new, 20 bay terminal scheduled for completion this month in Johnstown, Pa.

North Alabama Express, Inc., Alexander City, Ala., is all ready to start construction on a new terminal in that city.

Eastern Motor Express, Inc., Terre Haute, Ind., due to celebrate its sixth anniversary as a common carrier on Jan. 23, has inaugurated a two way radio dispatch system at its Chicago terminal.

Pacific Intermountain Express, Oakland, Cal., has set up off-line sales offices in Milwaukee, Wis., and Cincinnati and Cleveland, Ohio.

Akers Motor Lines, Inc., Gastonia, N. C., recently opened new offices in that city and new terminals in Savannah, Ga., and Columbia, S. C.

McDaniel Freight Lines, Inc., Crawfordsville, Ind., just celebrated its 25th anniversary.

Oneida Motor Freight, Inc., Tonawanda, N. Y., highlighted its 20th anniversary by dedicating a new terminal.

Pulaski Highway Express, Inc., Pulaski, Tenn., is planning construction of a new terminal and office in Nashville, Tenn.

Cleveland-Pittsburgh Freight Line, Inc., Pittsburgh, Pa., will occupy its new terminal, just outside the city's metropolitan area, the first part of this month.

Hawkeye Motor Express, Inc., Cedar Rapids, Iowa, recently celebrated its 20th anniversary with an open house and dedication of a new terminal.

Yellow Transit Freight Lines, Kansas City, Mo., elected George E. Powell, Sr., as president following acceptance of the plan of reorganization of the bankrupt line put forth by Powell and a group of Kansas City and Detroit businessmen.

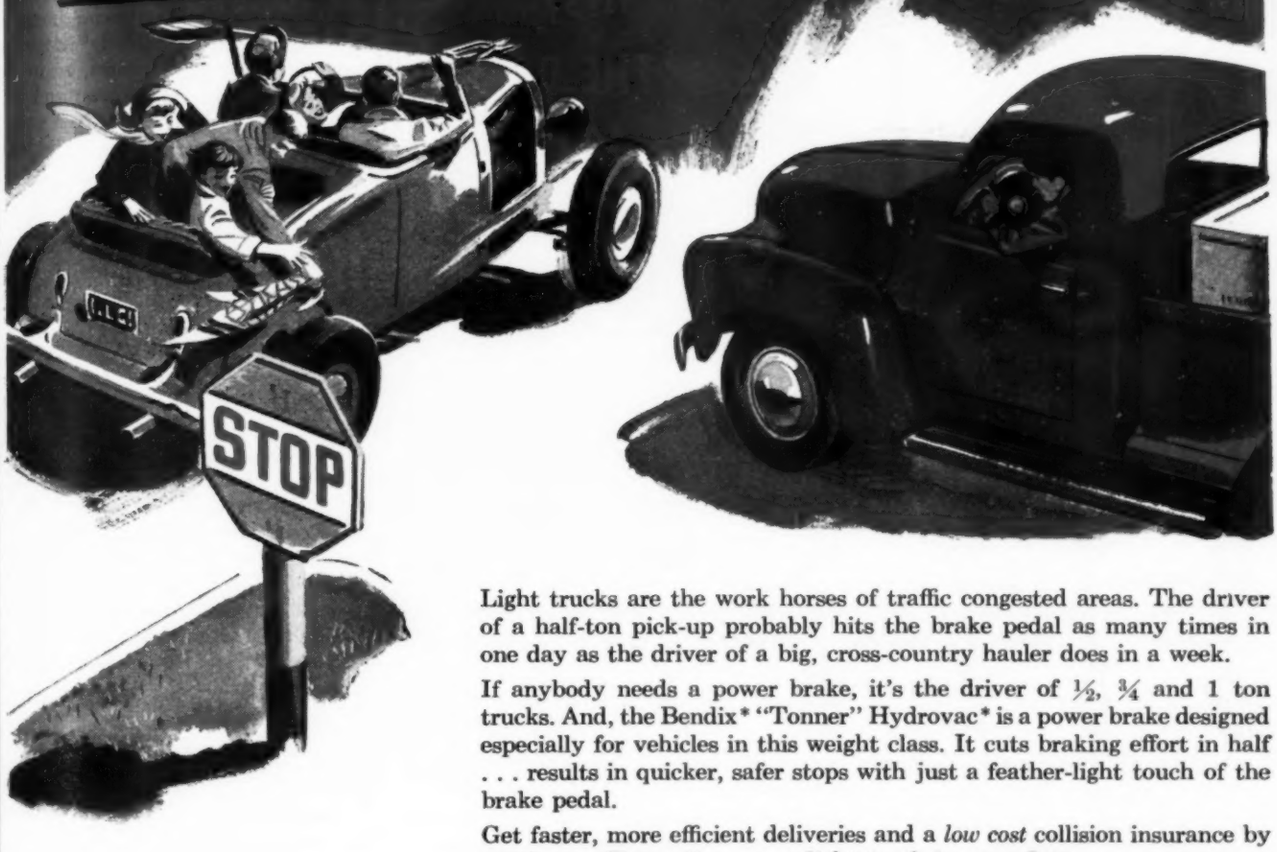
Chicago Transit Authority, Chicago, recently placed an order for 100 propane-fueled, 51 passenger buses, which will bring their propane-powered fleet to a total of 650 vehicles.

Bendix

"TONNER" HYDROVAC POWER BRAKE

For ½, ¾ and 1-TON TRUCKS

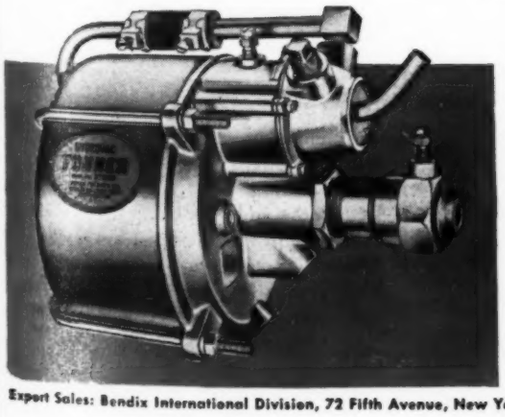
Provides Collision Insurance!



Light trucks are the work horses of traffic congested areas. The driver of a half-ton pick-up probably hits the brake pedal as many times in one day as the driver of a big, cross-country hauler does in a week.

If anybody needs a power brake, it's the driver of ½, ¾ and 1 ton trucks. And, the Bendix* "Tonner" Hydrovac* is a power brake designed especially for vehicles in this weight class. It cuts braking effort in half . . . results in quicker, safer stops with just a feather-light touch of the brake pedal.

Get faster, more efficient deliveries and a *low cost* collision insurance by putting a "Tonner" on *every* light truck in your fleet. *REG. U. S. PAT. OFF.



ONE DEMONSTRATION PROVES THE NEED!

NOT THIS

THIS

Ask your dealer or distributor for a test drive in a truck equipped with the "Tonner" demonstrator. It has a special "on-off" switch so that you can try both kinds of stops. Make a stop using only conventional brakes!

Then throw the switch "on" and put "Tonner" to work. Unless we miss our guess, you'll be convinced on the spot when you see how quick-acting, super-stopping the brakes become with the "Tonner" Hydrovac on the job.

Bendix SOUTH BEND

PRODUCTS DIVISION INDIANA

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York • Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada

John Bull Reconsiders Nationalization

Continued from Page 92

Road Service Mess

ALL through its brief existence, the British Road Services has faced an unfortunate dilemma. On the one hand, it is a nationalized body of some size, employing nearly 100,000 persons, with a central headquarters in London. As a public corporation, even though it has freedom of action in its day-to-day activities and considerable independence in regard to its operational practices, it is subject to overriding control by the government and by Parliament.

But, on the other hand, the nature of highway trucking lies in service at depot and local level. To give this service demands the highest degree of adaptability and initiative from the responsible manager at the depots, from the man who issues the orders to drivers and directs the movements of vehicles. While it is true that some aspects of trucking transportation can be organized on factory-like conveyor-belt lines, the greatest part of the industry's operations must be subjected to day-to-day (nay, hour-to-hour) adaptation to meet the constantly changing traffic conditions.

The local manager must display much initiative and self-impelling effort, and a great deal of drive to hustle on the operative staff. When trucking is run as an independent business, whether in Britain or America, there is the necessary spur to undertake these difficult and often unpleasant tasks, as it is upon results that the manager's own remuneration closely depends, either in the form of profits, or in the form of manager's bonuses and advancement. With a nationalized undertaking there is no such spur; the local manager is paid a monthly stipend (come rain, come sunshine, so to speak). Indeed, he is more likely to retain his job in perpetuity if everything runs without disturbance, and if there are no difficulties with staff that have to ber eported to a higher level, which can be achieved by always giving way to them. Evidence of this is not lacking among the managers of the British Road Services.

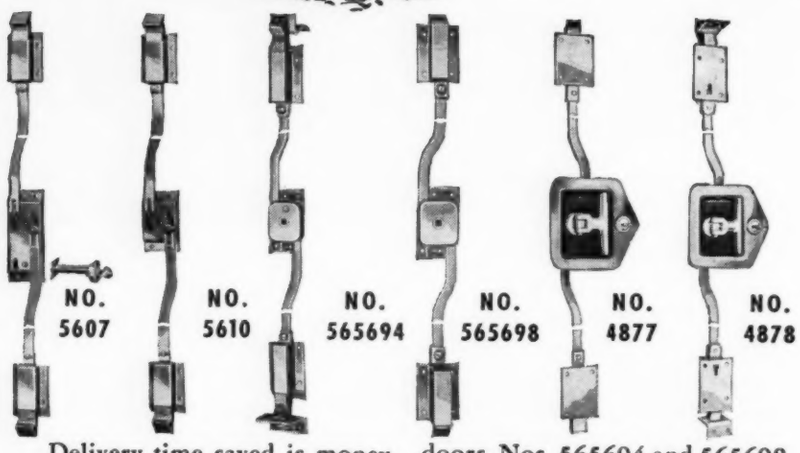
The task of management in industry is no honeymoon, whatever the socialists may think. Managers, in their task of constantly trying to make ends meet, must continually fight against the easy tendency for costs to increase, and not least for labor costs to rise. Nationalized industry has proved an easier orange for the labor movement to squeeze.

Private Truckers Squeezed

THE result of the plight of for-hire trucking has been plain to see. The number of private trucks (in Britain, known as "C" license vehicles) has increased considerably. When the Transport Act was passed in 1947, there were 487,000 "C" trucks, which has increased to some 800,000 today. While some of this increase is undoubtedly due to more extensive distribution services than had been possible during the war, anyone who knows the industry must be convinced that the primary cause has been the lessening satisfaction felt with the service given by for-hire transport since the change from independent enterprise to nationalized trucking.

END

Please Resume Reading Page 94



Delivery time saved is money saved and the convenient ease of operation of Eberhard "Slamlocks" with their cargo protecting facility is responsible for their strong acceptance by body builders.

Nos. 5607 and 5610 for heavy doors, Nos. 565694 and 565698 for medium doors, Nos. 4877 and 4878 "Recesso" locks (with recessed folding handles) for compartment doors of tank and utility bodies.

Drop us a line. We'll be pleased to give you complete information on any or all of these items.

No. 4879—Paddle Handle Recessed Door Locks with slam latching action.

EBERHARD *Long Run*
TRUCK BODY FITTINGS

EBERHARD MANUFACTURING CO.

Division of the Eastern Malleable Iron Co. EVARTS AVENUE CLEVELAND, OHIO

KOLD-HOLD truck refrigeration WILL PAY FOR ITSELF!

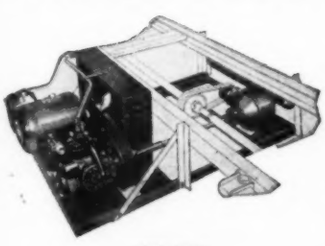
How would you like to finish an entire season without loss from spoilage? Every time you incur a spoilage loss you are taking a trimming . . . you're scraping profits into the garbage pail.

Actually you're paying for Kold-Hold truck refrigeration now . . . why not enjoy its advantages? You not only save spoilage losses, but your trucks can make longer hauls. They can carry a full day's load to save time and manhours and make trips more profitable. Full flavor is retained so that you assure complete customer satisfaction. These benefits mean that dependable Kold-Hold truck refrigeration will pay for itself.

For example, one user reports: "Kold-Hold has saved us $10,500 in less than six months."

When the weather is stacked against you, don't gamble. Don't invest in half satisfaction. Be sure you specify Kold-Hold dependable truck refrigeration that maintains pre-determined low temperatures and keeps truck bodies clean, dry and sweet smelling even on the hottest days.

KOLD-HOLD *can answer any refrigeration problem!*



KOLD-TRUX

Which do you prefer . . . Mobile or Hold-Over truck refrigeration? Kold-Hold can give you either or a combination of both.

When your weather worries start, pick out the routes with the biggest refrigeration problems and call on Kold-Hold to give you a satisfactory solution. They will give you the right combination for your needs from such highsides as the Kold-Trux Mobile Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold Hold-Over Plates, Thin Plates, Serpentine Quick-Action Plates, or Blowers.

Why not give us the details of your problems and let our engineers find the most efficient solution for you. Write today for details.

HOLD-OVER PLATES

Tell us your truck refrigeration problems and send now for complete data and literature.

KOLD-HOLD

Stop Shop Fires Before They Start

Continued from Page 87

approximate area in square feet that needs to be protected. Since shops are natural locations for gasoline, oil and grease fires, make a careful analysis of their storage and use. Electrical wiring and equipment should be observed. Consideration should be given to the possibility of installing fire doors to separate areas and to replacing the ordinary windows with wired glass. Ventilation facilities can also be danger points as well as safeguards and should be carefully checked. An inventory should be made of existing fire fighting equipment according to its location, condition and Underwriter's classification (described later).

It's a good idea to make this survey with a fire inspector or fire insurance engineer. Generally fire insurance rating plans take into consideration three main points: (1) General fire hazard of the area, (2) construction of the buildings (3) fire hazard of the type of business to be insured.

Extinguisher Location

NEXT step in organizing a fire protection program is to sit down and make a complete floor plan of the property dividing it into fire control areas noting the square footage and types of fires likely to occur in each. In deciding on where to place the extinguishers, mark the area to be covered by each unit so the proper capacity is selected for the space. After deciding the general location, the next step is to pick the specific spot to place the extinguisher. It should be easily available, not blocked off by equipment, freight, doors, etc. Valuable minutes can be saved when the extinguisher can be reached without climbing over a drum of grease or moving a vehicle or pushing away a pallet load of freight. In mounting extinguishers be sure they are at convenient height. A good general rule is not over five feet from the top of the unit to the floor for small size extinguishers with capacities up to 2½ gal. or 10 lb. Heavier and larger portable units should be not higher than three and a half feet from the top to the floor. For wheeled units, keep a wide path clear from the extinguisher to the possible hazards with an extra foot of clearance on each side. Every location should be clearly marked above the unit at a generally visible height and with easily read letters.

After planning extinguisher location to cover the estimated normal hazard, places for storage of reserve supplies and extra equipment for temporary hazards will have to be decided on. Equipment for these special hazards should be on easily moved frames so they can be placed on the dock when some more flammable cargo is being handled, moved to the shop when a particularly hazardous job is underway or used as temporary replacement for regular equipment undergoing repair or recharge.

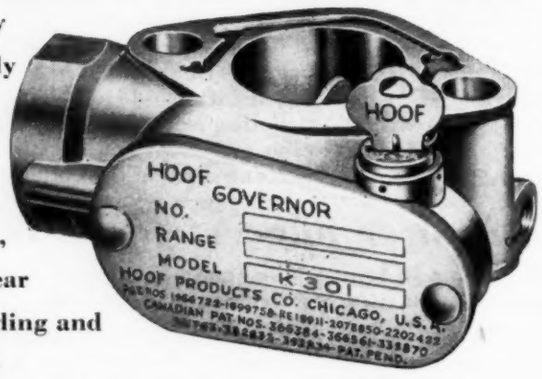
Selecting Equipment

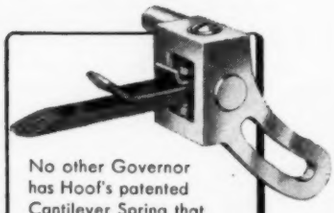
THE accompanying diagram is a comprehensive analysis of available portable fire extinguishing equipment. Lines 1, 2, 3 and 4 indicate the suitability of the various types for the three classifications of fires. Line 5 shows the average capacity of the various models available and the Underwriter's classification for this type. A safe guide in buying equipment is to

(TURN TO PAGE 134, PLEASE)

YOU DON'T PAY FOR HOOF Governors THEY PAY YOU!

Hoof Governors *pay back* their extremely low cost many times *each year* . . . actually save from 20% to 50% on tires, brakes, clutches, rear ends, motor rebuilding and other maintenance expense . . . save on gas and oil, reduce accident hazards. Against savings such as these, the few dollars invested per Hoof unit are truly negligible. Write for FACTS!





No other Governor has Hoof's patented Cantilever Spring that means more accurate speed control, simplified construction and longer life.

HOOF PRODUCTS CO. 6543 So. Laramie Ave., Chicago 38, Ill.

KELSEY-HAYES

Advanced Design

3 pc. Truck Wheel

With the EXCLUSIVE KH Safe LOCKING DEVICE

Hailed by truck manufacturers and tire servicing men as the safest ever devised! As tire is inflated the retaining ring locks the assembly even tighter. Also assures greatest convenience in tire mounting, demounting, and tube insertion!

Available in all popular sizes for leading makes of trucks . . . to increase tire mileage 20% to 50%!

. . . ASSURES PROVEN PRODUCTS AT . . .

KELSEY-HAYES WHEEL COMPANY

DETROIT 32, MICHIGAN

PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.

PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada.

Stop Shop Fires . . .

Continued from Page 132

look for the Underwriter's label on it. This label indicates the type of fire the unit has been approved for, and its fire fighting capacity.

The Underwriter's unit of fire fighting capacity is the amount usually required for each 2500 sq ft of floor space or fraction thereof. Thus an extinguisher rated A-1 would constitute one unit of adequate protection against a class A fire for a 2500 sq ft. area. An A-2 rating indicates that the extinguisher is adequate for only half that area or that two would be required for one unit of fire protection against a class A fire. Some extinguishers, it will be noted in the chart, have a combination rating, as for example the 7½-lb carbon dioxide model is rated B-2, C-1. This indicates that for class B fires two such extinguishers are required for the one unit of 2500 sq ft, while for Class C fire only one such extinguisher would be needed for the same area.

When new buildings are planned, they should be built with a maximum of economical built-in fire protection. Be sure to check local laws and regulations but remember they provide only a minimum of what can be done. Overhead sprinkler, carbon dioxide or other built-in systems should be considered. In cooperation with local authorities, it is possible in some localities to include a high pressure standpipe as well as a fire alarm directly connected to the fire department. Bulk fuel tanks should be located for a maximum of fire protection and equipped with adequate fill and vent fittings.

Employee Training

HAVING surveyed the property, decided on extinguisher locations and selected the equipment, the next step is to train *all* personnel in making effective use of the equipment and in eliminating and reducing fire hazards. Employees should be impressed with two important points: (1) a reasonable amount of common sense precaution will prevent a lot of fires and (2) fires have a hard time getting started when equipment, shops, docks, etc., are kept clean and free from trash and waste.

Assign employees areas to watch for fire hazards. Make them responsible for keeping hazards at a minimum in the areas assigned. The shop foreman can sub-divide the shop into areas assigned to each mechanic, the claim agent can watch the dock with the checkers each looking after a part of it, and so on.

Every employee should have confidence in the equipment. This means he has to know what it will do and how to do it. The local fire department and extinguisher manufacturers are often more than willing to provide instruction and demonstration in fire fighting techniques. In addition, every employee should have a chance to use the various extinguishers so they understand their operation before being faced with a blaze.

In summary, the employee training program should include regular classes in fire prevention and control, periodic fire drills, carefully worked out fire prevention regulations and fire fighting procedures, and a system of posters, contests, awards and other means of stimulating employee interest. It should be outlined under the following four major parts: (1) fire prevention, (2) fire detection and control, (3) damage control and (4) prevention of personal injury and burn and suffocation first aid technique.

Because of their importance as a cause of fires—nearly 30 per cent of all fires from known causes over a 10-year period, careless discarding of matches and careless smoking habits

(TURN TO PAGE 136, PLEASE)

NIEHOFF trouble-free ignition

FOR EVERY TRUCK IN YOUR FLEET!

Rely on Niehoff for dependable ignition for every truck, every trip. Niehoff parts are top quality parts, precision-engineered for fast, easy installation and long, dependable service. All Niehoff parts are catalogued by a single code for every make and model of truck— and warranteed for 4,000 miles or 90 days!

C. E. NIEHOFF & CO.
4925 LAWRENCE AVE., CHICAGO 30, ILL.
BRANCHES: BOSTON 34, MASS., 254 Brighton Ave.
LOS ANGELES 15, CALIF., 1330 W. Olympic Blvd. • NEW YORK 19, N. Y., 250 W. 54th St.

NIEHOFF Warranteed Ignition

NOW! 2 NEW HYSTER® LIFT TRUCKS

Extra-Rugged for "INSIDE and OUTSIDE" Work

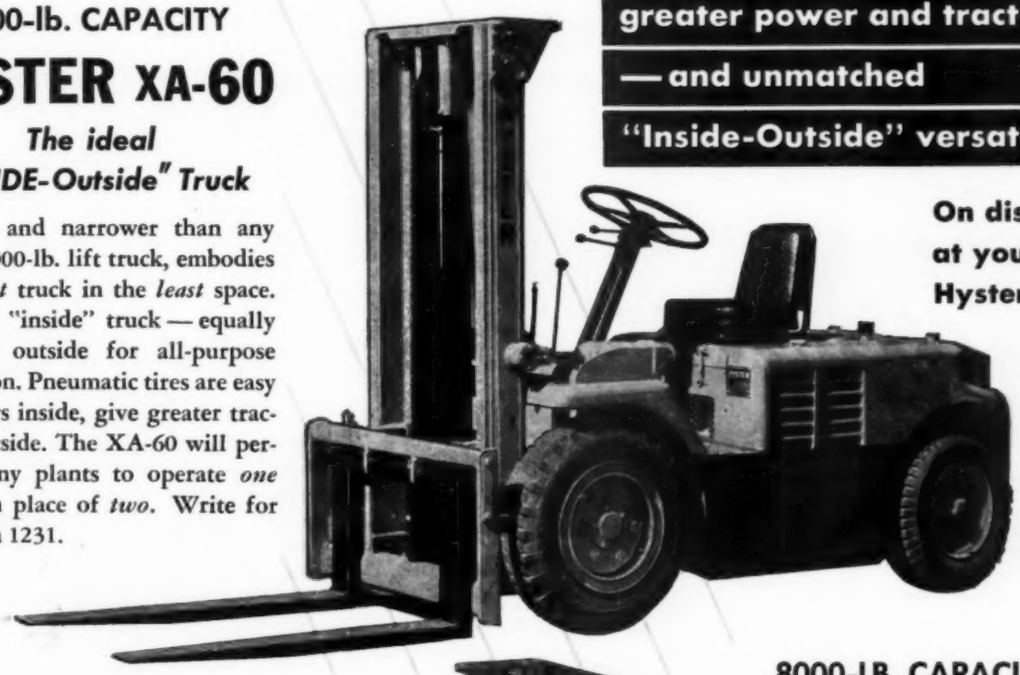
Shorter, Narrower, Faster—with greater power and traction —and unmatched "Inside-Outside" versatility!

6000-lb. CAPACITY

HYSTER XA-60

The ideal "INSIDE-Outside" Truck

Shorter and narrower than any other 6000-lb. lift truck, embodies the *most* truck in the *least* space. A great "inside" truck — equally efficient outside for all-purpose operation. Pneumatic tires are easy on floors inside, give greater traction outside. The XA-60 will permit many plants to operate *one* truck in place of *two*. Write for Bulletin 1231.



On display at your Hyster dealer

8000-LB. CAPACITY

HYSTER ZA-80

The ideal "OUTSIDE-Inside" Truck

Has long wheelbase, but SHORT OVER-ALL LENGTH — for smoother riding and high maneuverability. For use where most of work is *outside*, but truck is *also* required to work *inside* in close quarters. Extremely powerful, with tremendous traction, yet pneumatic tires assure maximum protection to floors. Write for Bulletin 1230.

HYSTER COMPANY

THREE FACTORIES

2902-01 N. E. Clackamas, Portland 8, Ore.
1802-01 North Adams.. Peoria 1, Illinois
1010-01 Myers Street... Danville, Illinois

Be sure to get the whole Hyster "Inside-Outside" story before you buy *any* Lift Truck! Ask your Hyster Dealer, or write for Bulletins 1230 and 1231.

Stop Shop Fires . . .

Continued from Page 134

deserve special consideration. Smoking is a universal habit and isn't likely to be stopped, but personnel can be trained to take care when, where and how they smoke and discard matches and butts. Highly hazardous areas, such as flammable liquid storage areas, should be rigidly kept "No Smoking" areas, while mechanics should be trained to recognize the hazards of the oil and grease they are in almost constant contact with.

Periodic Inspection

WHEN the blaze springs up, it is too late to recharge or repair fire extinguishing equipment. The investment might just as well not have been made. Unless someone is made specifically responsible for a thorough periodic inspection and check-up program, the chances of capitalizing on a fire program are drastically reduced. Extinguishers are all too often hung and forgotten.

All units should be inspected two or three times a year at least for corrosion, damage or loss of contents. All units should be recharged after use and some require an annual recharging as indicated on the chart. Freezing must be guarded against; don't use the fire to thaw out extinguishers. The employee assigned the job of preventive maintenance on the fire extinguishing equipment must know how to recharge each type of unit and how to check each one for operating effectiveness. Lines 6, 7, 8, 10 and 12 on the chart provide a basic outline for this maintenance check.

Fire Hazards

AS mentioned earlier, a fire starts when a fuel, oxygen and sufficient heat to ignite the fuel are together at the same time. First step in eliminating and reducing fire hazards is safeguarding against heat in the form of flames, sparks, welding arcs, etc. Some fire fuels, such as gasoline, cleaning solvents, etc., can be properly protected by adequate storage; others, such as freight, buildings, wooden work benches, tires, pallets, etc., have to go relatively unprotected. Oxygen is in the air and, unless work is done in diver's helmets, is the least controllable factor. However, oxygen storage tanks for welding can be carefully stored, checked for cylinder or valve leaks and handled with care.

Heat, in addition to coming from flames, sparks, welding arcs, etc., also causes fires through spontaneous combustion. This is simply the combining of a material with oxygen in the air as in the case of metals rusting. However, in the case of more flammable materials, the chemical reaction under certain conditions produces enough heat to ignite the material. This is what happens when oily rags or waste are thrown into a corner and forgotten. Most spontaneous combustion fires can be eliminated by keeping shops and other buildings clean, by a system of regular trash and waste collection and disposal, and by use of adequate waste and trash containers. With the ease with which they can be controlled, there is not much excuse when fires result from spontaneous combustion.

Heat Protection

MORE common heat sources that start roaring fires are flames and sparks from defective electric wiring, careless smoking, overworked or poorly adjusted heaters, improper use of some types of open-flame steam cleaners, overheated machinery, mishandled tools, grinding and sanding operations, steel wheels, shoe heels having steel

(TURN TO PAGE 138, PLEASE)

"Cleveland"
ALL STEEL HINGES
Laminated construction of 3/16th inch thick steel. Hardened bearings and ½" diameter knurled pin, designed to give greatest strength and resistance to wear at the hinging point—an exclusive feature.
#2423 G
#2423 H
#2423 K
Available in four strap lengths—8", 12", 16" and 20". Width 1¾"—Butt plate 4½".
Send for new Catalog — 24
THE CLEVELAND HARDWARE and FORGING COMPANY
3264 East 79th St. Cleveland 4, Ohio

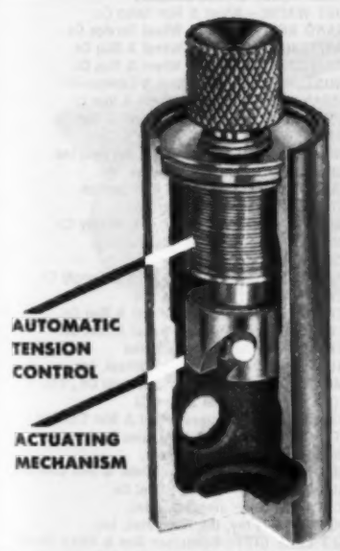
NEW

Self-Adjusting Tappets

ASSURE PERFECT VALVE TIMING

...AND THAT MEANS

Dollar Savings on Gas and Oil for Fleet Operators



The patented built-in tension control provides the give and take necessary to absorb the variations in the tappet-to-valve system that occur with wear, expansion and contraction.

Here are the facts: when an engine heats up, the length of the valve system increases by expansion. Ordinarily, tappets are adjusted to provide for the hottest engine conditions. However, ordinary tappets being rigid, the clearance then is too great for cold engines; valves open too late and close too soon . . . bring valve hammer and reduced efficiency.

The new S-M Self-Adjusting Tappets are engineered to assure perfect valve timing. When "looseness" (with a cold engine or with wear) occurs in the valve system, the length of the tappet is automatically increased by the internal mechanism . . . and automatically shortened similarly when tightness occurs with engine heat.

This operation is foolproof . . . maintaining perfect valve adjustment for thousands upon thousands of miles . . . and with the easiest installation. You will find quieter, smoother performance, measurable savings on gas, reduced service and repair costs, and greater power and speed.

SKINNER-MOSER SALES DUNEDIN, FLORIDA

FLEET OPERATORS! *Send for complete information today.*

S-M Self-Adjusting Tappets *are made for a wide range of car and truck models.*

SKINNER-MOSER SALES ICCJ
Dunedin, Florida

( ) Please send complete information at once.
( ) Please ask your distributor to call.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Another Bulls Eye

For ALGAS LP-Gas Carburetion Equipment

Again ALGAS, America's leading LP-Gas Carburetion Equipment, has scored a direct hit. Again ALGAS has been chosen after much factory research and field testing.

Continental Motors Choose ALGAS

The famous Continental Red Seal Engines now use ALGAS as standard equipment for LP-Gas operation.

As the trend toward LP-Gas as a motor fuel increases, more and more leading engine manufacturers are choosing ALGAS because of its proven performance.

Every piece of ALGAS equipment is precision engineered to meet exacting requirements.

Diamond-T Motor Trucks Choose ALGAS

Diamond-T Motor Trucks, a leader in their field, have chosen ALGAS LP-Gas carburetion equipment.

The ALGAS line is the most complete line of LP-Gas carburetion equipment offered today.

Follow the choice of the leaders and choose ALGAS LP-Gas equipment. Let us send you complete information now.

AMERICAN LIQUID GAS CORPORATION

1109 Santa Fe Avenue
Los Angeles 21, Calif.

Stop Shop Fires . . .

Continued from Page 136

plates, and careless use of welders, blow torches, soldering irons and similar equipment. How to prevent fires from these sources is in most cases apparent.

With increased use of electrical equipment, shop wiring needs a careful check. Some mechanics, tops when it comes to vehicles, aren't so hot when they try their hands at electrical work. Check all electrical circuits against poor connections, exposed wires, exposure to water leaks, and be sure they are of sufficient capacity to handle the load. All too often fuses designed to protect against overloading are removed and nails, pennies or fuses with too high a capacity substituted. Flexible cords and cables must be watched to avoid accidental cutting by being run over or by rubbing on sharp corners.

Welding, because of the intense heat and sparks, is another danger source requiring special precautions. Welding should be done in areas free from flammable vapors and well ventilated. Materials around the area should be protected from sparks or the heat generated. If possible, flammable materials should be removed. Screens should be used to stop flying sparks. Stub ends of electrodes should be placed in special containers. Fire extinguishers should be readily available. And keep a careful watch for at least 30 minutes after finishing the job to catch all smoldering fires that may have started.

Tanks and other containers that have held gasoline or other flammable materials should be first washed out or steam cleaned thoroughly. Before welding, fill the tank with water to a point just below where the repairing is to be done. Provide an opening to allow steam and air to escape. When welding is to be done on a vehicle, clean off all oil and grease from as large an area as possible around the spot to be repaired. If possible, remove the fuel tank. If this cannot be done, protect the tank and fuel lines by asbestos board or a similar nonflammable material.

Fuel Control

AS mentioned earlier, it is not reasonable to isolate such fire fuels as cargo, buildings, etc. But the fire hazard from such materials as gasoline, oil, grease, cleaning solvents, etc., can be greatly reduced through adequate storage. Greatest hazard of this type is flammable vapor, and it is present

(TURN TO PAGE 140, PLEASE)

Budd Wheel Distributors

provide the same service described in this advertisement

AKRON—Motor Rim Manufacturers Co.
ALBANY—Wheels, Incorporated
ALBUQUERQUE—Wheels & Brakes, Inc.
ATLANTA—Harris Automotive Service, Inc.
BALTIMORE—R. W. Norris & Sons, Inc.
BIRMINGHAM—Wheel, Rim & Parts Co.
BOSTON—New England Wheel & Rim Co.
BUFFALO—Frey, the Wheelman, Inc.
CHARLOTTE—Carolina Rim & Wheel Co.
CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAVENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
DES MOINES—Des Moines Wheel & Rim Co.
DETROIT—H. & H. Wheel Service, Inc.
EVANSVILLE—Auto Wheel & Rim Service Co., Inc.
FARGO—Wheel Service Company
FORT WAYNE—Wheel & Rim Sales Co.
GRAND RAPIDS—Rim & Wheel Service Co.
HARRISBURG—Standard Wheel & Rim Co.
HARTFORD—Connecticut Wheel & Rim Co.
HOUSTON—Southwest Wheel & Equipment
INDIANAPOLIS—Indiana Wheel & Rim Co.
JACKSONVILLE—Southeast Wheel & Rim Co.
KANSAS CITY—Borbein, Young & Co.
KNOXVILLE—Harris Automotive Service, Inc.
LOS ANGELES—Wheel Industries, Inc.
LOUISVILLE—Auto Wheel & Rim Service
LUBBOCK—Southwest Wheel, Inc.
MEMPHIS—Beller Wheel Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW HAVEN—Connecticut Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoria Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Co., Inc.
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robblees', Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co., Inc.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel & Equipment
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robblees', Inc.
SOUTH BEND—Wire & Disc Wheel & Sales Service
SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Brake Co.
SPRINGFIELD, MO.—Borbein, Young & Co.
ST. LOUIS—Borbein, Young & Co.
ST. PAUL—Wheel Service Co.
SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robblees', Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.
WINSTON-SALEM—United-Automotive Service

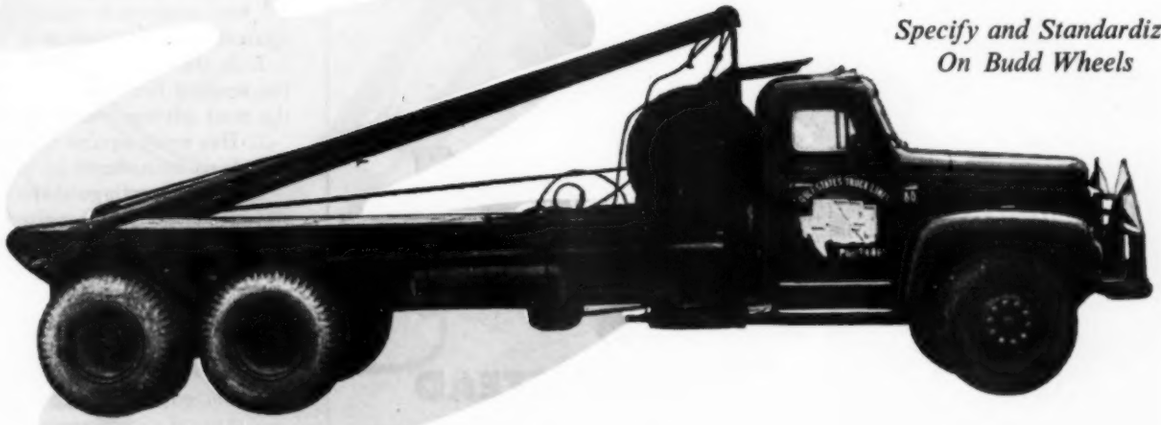
EXPORT

CLEVELAND—C. O. Brandes, Inc.

CANADA

CALGARY—Mutual Supplies, Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—Auto Wheels & Supplies, Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd.
VANCOUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.

Specify and Standardize
On Budd Wheels



Recapitulating the Recaps

Wayne T. Benson, who operates Gulf States Truck Lines in Shreveport, tells us of "one of the amazing discoveries" that turned up when he changed over to Budd wide base wheels with a taper under both bead seats.

Prior to the changeover, he found his tires were blowing out just before reaching the recap stage. After switching to Budd wheels, "We are able to recap most tires 2 or 3 times, and have a few that are now running with their fourth set of recaps."

Jimmy Bowen, of Southwest Wheel, Inc., was called in in January of 1949 to diagnose the tire trouble that Gulf States was having. He recommended that one unit be changed over to Budd wheels. The results were so conclusive that Gulf States promptly switched all units over to Budd wheels and now have a policy of specifying Budd wheels whenever they order new equipment.

In the words of Wayne Benson, "We are convinced that Budd wheels are not an expense item, that they are a dividend paying investment."

If you are experiencing tire trouble of any nature, why not ask your Budd wheel distributor at the left for a survey of your own equipment. Chances are he can point the way to a minor investment that can really pay off in dividends!

The Budd Company, Detroit 15.

Stop Shop Fires . . .

Continued from Page 138

wherever flammable liquids are received, stored, dispensed or used. Such vapors at normal temperatures are heavier than air, will creep down hill into shops through ventilators, air ducts or stair-wells.

Bulk storage of these highly flammable materials should be at a safe distance from the shop and other buildings. Gasoline storage tanks should be underground. Solvent, oil and grease drums should be carefully stacked to avoid punctures, and leaking containers should be replaced at once. Only quantities of these materials for present use should be in the shop and then properly stored in air tight, plainly marked containers. Adequate ventilation is necessary both in the shop and in the storage area. Empties, that have held these materials, should have their openings securely closed and disposed of as soon as possible, but not by burning! And these precautions apply in paint and battery shops as well.

Gasoline storage and handling precautions apply to LP gas. Detailed information on safe handling of LP gas was covered in COMMERCIAL CAR JOURNAL, June, 1951, page 62, "LP Gas Can Be Safe As Gasoline." In general, however, LP gas, usually stored above ground, acts the same as gasoline fumes but because it is stored under pressure and is a colorless gas, additional care is required in checking storage tanks and connections for leaks.

It goes without saying that smoking carelessness in flammable material storage and working areas cannot be tolerated.

Vehicles in shops can be hazards unless workmanlike precautions are taken. Oil and grease and gasoline vapors are always present. Tools laid across battery terminals, defective wiring, hot exhaust, backfires and other such danger spots can be guarded against by the careful mechanic.

Check Your Program

AFTER the fire protection and control program is organized, check it against these 11 questions:

1. Is the system capable of handling the severest fire that could occur under the most adverse conditions?
2. Has every square foot of the property been considered in the program?
3. Are the extinguishers adapted for the specific hazards involved?
4. Has the possible damage to equipment, parts, freight or other property that might be caused by the extinguishing agent been minimized?
5. Are the extinguishers of a type that will not spread certain types of fires that might occur in their location?
6. Are the extinguishers easy to operate and easy to reach?
7. Is there regular employee instruction in fire prevention and control?
8. Does the system have ample reserve supplies to cover normal hazards with ample provision for temporary conditions increasing the hazards?
9. Are there sufficient extinguishers so located as to provide adequate protection for the area they are to cover?
10. Are the extinguishers continually ready for use?
11. Has a constant check-up and maintenance system been assigned to a responsible person?

If the answer is "yes" to these questions, you're well on the way to minimizing your fire losses and obtaining reduced fire insurance rates.

END

Please Resume Reading Page 89

BULLDOG BLODGETT, OUR YARD HOSTLER, SAYS HE'S DATING A MIGHTY BRIGHT GIRL THESE DAYS. "ALWAYS LIT," SAYS BULLDOG.

LIFT "UNDER-CAR" REPAIR-JOBS TO THE BEST WORKING HEIGHT WITH THE NEW..... HOMESTEAD HOISTER

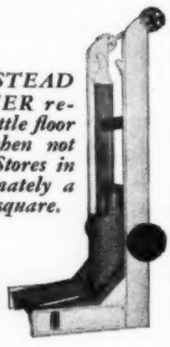
(By the Makers of Hypressure Jenny)

SAVE UP TO 50% OF MECHANICS' TIME and WAGES ON UNDER-CAR REPAIR JOBS

Garage, fleet and service station mechanics work faster and more efficiently when they are not forced to hunch, crouch, or lie on their backs in uncomfortable working postures. With the new, automatically safety-locked, air-operated HOMESTEAD HOISTER, a car or truck can be instantly raised and securely held at the most convenient working height for any "low-down" or under-car service. As a result, repair time and labor costs are reduced and profits increased.

To prove it, we will gladly arrange for a demonstration in your shop. Write today for complete information and address of nearest jobber.

ILLUSTRATED FOLDER AND PRICES ON REQUEST



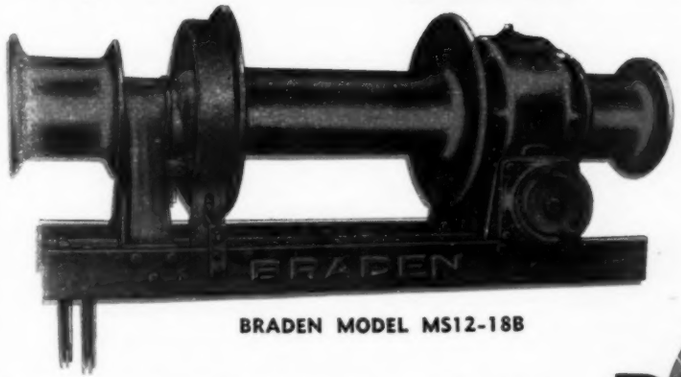
HOMESTEAD HOISTER requires little floor space when not in use. Stores in approximately a 30-inch square.

HOMESTEAD VALVE MANUFACTURING COMPANY

"Serving Since 1892"

P. O. BOX 90 CORAOPOLIS, PA.

BRADEN winches used in the dumping mechanism of *LOW-COST* CABLE-DUMP TRAILERS . . .



BRADEN MODEL MS12-18B

BRADEN Winches on these trailers make dumping operation a simple job. Complete control is maintained by the driver from the cab at all times. BRADEN'S safety features and conservative capacity ratings prevent chances for error, and speed up operations. BRADEN Winches can help you with practically any handling job. Write for complete information.

BRADEN WINCH COMPANY

P. O. Box 547, Broken Arrow, Oklahoma

BRADEN Winches

Brake Balancing Cuts Costs by 40%

Continued from Page 68

four wheels removed and brake cams set at zero, the brake pedal is depressed to give one inch push rod travel which is equal to a shoe spread of two inches. Another reading is taken with brake cams adjusted open to give the shoes a spread of two inches, then a reading is taken when the push rod has traveled one inch. We permit only ½ lb variation between any two wheels on one axle and one pound variation between any two axles on this test. If more variation exists, we make a systematic check for possible mechanical friction at the anchor pins, cam shafts, rollers, roller pins, push rods. We further check for restrictions in the air lines, for defective units or for unbalanced springs or brake chambers.

From the days of old comes -
the New Bartlett Tandem!
ARE YOU TIRED of putting your trailer in the shop for greasing.
of tying up your trailer tandems for annual overhaul, not considering the cost of overhauling.
• Bartlett tandems need no overhauling or greasing.
• Over five years of every type of hauling have proven this.
• Let us show you the way to cut costs. Use Bartlett Tandems.
Three piece steel cased extruded rubber bushings throughout!
BARTLETT TRAILER CORPORATION
3080 ARCHER AVE. • CORNER OF ASHLAND • CHICAGO 8 • VIRGINIA 7-1160

Importance of Springs

HERE in detail are common factors which you may find during this test: To insure equal distribution of braking forces at low pressure brake shoe retracting springs must be of the proper length and tension. We carefully check old springs removed from the assembly on a spring scale that is made up in our shop. Thus we insist that all springs have the same free length and also require the same forces to stretch them to a given length. In this connection we have set up a chart showing proper specifications for each spring on each model bus so that the mechanic can check quickly against factory specifications.

We also insist that the springs be installed exactly as required by the manufacturer. Thus the spring eye may have the open end to the anchor, or to the cam. This may seem like a minor factor, but our experience proves that these springs are critical at low brake chamber pressures from 15 to 20 lb, and, of course, most of our service stops are at these low pressures.

Another important aspect of brake balance is the springs in the brake chambers. We check carefully for free length, number of coils and for general condition. Rusty springs are never reinstalled. All springs must check alike for the same type brake chamber.

We have another chart providing spring numbers and complete specifications as to length, OD and ID of the springs, wire diameter, number of coils, etc., for quick reference in selecting replacement brake chamber springs. This not only saves time but also assures us that the mechanic is going to install the proper spring for the unit.

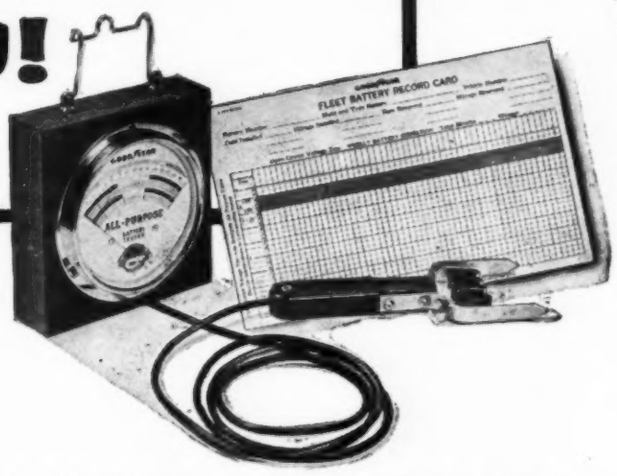
Another test on the brake chambers is the leakage test. We make a bench test each time the unit is removed or each time it is rebuilt. No leakage is permitted. Diaphragms are given a visual check for signs of deterioration and for stretch. Brake chamber diaphragms on one axle must be of the same age. An old diaphragm will require less air pressure for a given travel than a new one and thus upset brake balance. We never take a chance with a diaphragm that suggest weakened conditions. They are less expensive than a road call or a dangerous coach. We never change one diaphragm on an axle without changing the other one.

It might be mentioned here that much of the premature failures in diaphragms comes from excessive tightening of the brake chamber flange bolts,

(TURN TO PAGE 144, PLEASE)

Let this

TROUBLE-SPOTTING TEAM SAVE BATTERIES AND MONEY FOR YOU!



WHEN you take advantage of *Goodyear's Fleet Battery Maintenance Plan* you insure longer life for each and every battery you own.

Here's how the Plan works:

Each week when your maintenance man waters batteries, he makes a quick check with the Goodyear All-Purpose Battery Tester. His findings are then recorded on a Fleet Battery Inspection Card. The history of every one of your batteries is kept on a separate card—and should any one of your maintenance man's markings be placed outside the green "safety" lines on the card, you know there's trouble.

It may mean that your voltage regulator is set too high. This could burn out the battery—cut the life of every replacement element in the electrical system. Low voltage regulation settings — with frequent battery discharges, recharges and premature failures—are quickly located also.

What could be simpler? What could be more economical?

When you use this plan in conjunction with Goodyear heavy-duty truck and bus batteries, you save even more. Put this moneysaving plan to the test on your fleet right away. Mail the coupon for full information.

GOODYEAR

THE GREATEST NAME IN RUBBER

Clip this coupon and start saving!

THE GOODYEAR TIRE & RUBBER COMPANY, INC.
Dept. 729-C, Akron 16, Ohio.

Please show me how to save on battery and electrical parts costs — with full details on Goodyear's Fleet Battery Maintenance Plan.

Name_____

Firm Name_____

Street Address_____

City_____ Zone_____ State_____

Number of Trucks in Fleet_____

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network—THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

Brake Balancing Cuts Costs

Continued from Page 142

which reduces the flexibility and so shortens life. Another cause of early failure is excessive push rod travel. We hold this travel to ¾ in. and insist, in the interest of balance, that it be the same on all wheels. While a greater travel is sometimes permissible, we find that this specification does permit proper brake application with the minimum volume of air. A short travel also increases diaphragm life for the reasons outlined above.

It is imperative that the slack adjusters themselves are free from wear and lost motion in brake work. We fill them with ball bearing grease during the overhaul and then plug the hole with a pipe plug in lieu of the grease fitting. This assures us that dirt does not enter the assembly. Lubrication is done every 24,000 miles in our operation.

There are several other points which should be mentioned here. In order to get proper leverage at the brake cams, the slack adjuster should be positioned on the shaft so that the angle between the slack adjuster and the push rod is 90 deg or more at full brake application. This angle should be the same on all wheels if you are to enjoy the benefits of brake balance.

The Final Check

WE have found a simple and what we think of as sure way to check the brakes. We use a pyrocon (pyrometer) on the flange of each brake drum after a number of stops have been made on a road check. This gage, in showing temperature of the brake drum, shows accurately the amount of work being done by each wheel. We get readings from 200 to 250 deg and hold a permissible variation to 10 deg between wheels on same axle. When wheels vary in excess of this, we know that we don't have the balance required to get the stops and the lining life we want. An adjustment or a quick check of factors listed above tells us what is wrong. In my estimation the pyrocon is just about the most accurate test that you can make for synchronization in the field. We use it to *prove* that our maintenance routine has brought about the brake balance that makes our buses, safe, dependable and long lived.

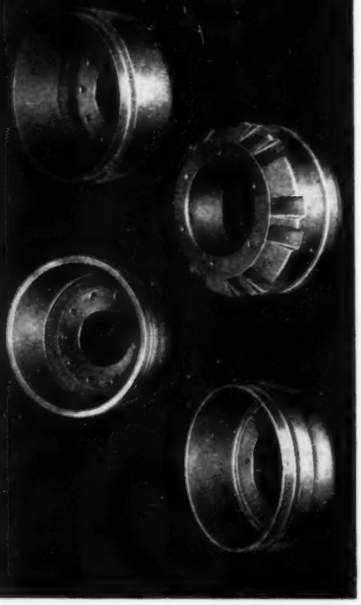
END

Please Resume Reading Page 69

more stopping power with

HOMAN DRUMS

FOR CAST SPOKE AND DISC-TYPE WHEELS



Homan Brake Drums are made of the finest close grain, chrome iron alloy for longer, more efficient wear. They are precision machined to insure concentricity, longer brake lining life and to guarantee an even braking surface. Designed and built to dissipate heat quickly and minimize checking.

Homan Drums are a sound investment in preventive maintenance.

For complete details, write today.

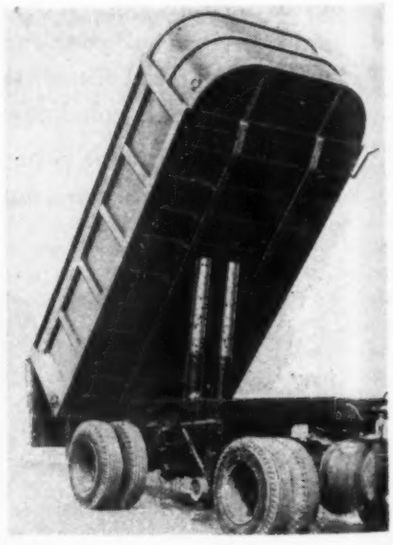
HOMAN AND COMPANY, INC.

READING • CINCINNATI 15, OHIO

ESTABLISHED 1847

For Fast Dependable Service Ship by Truck Trailer

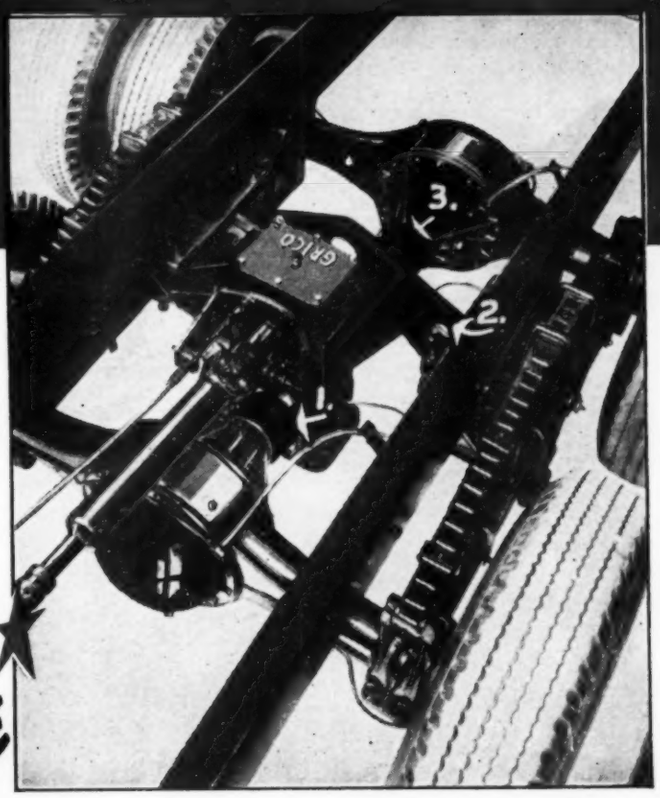
Trailer Dump Body



Single axle, packaged trailer dump bodies of up to 20-cu yd capacity have been announced by The Galion Allsteel Body Co., Galion, Ohio. With an 88-in. inside width, 32-in. sides and 44-in. ends, the Model 12 series vary in length up to 18 ft to provide the desired yardage capacity. Body construction is of 10-gage steel and includes 12-in. steel removable sideboards as standard equipment.

GRICO TWO AXLE DRIVE

IN LINE WITH OUR PROGRESSIVE ENGINEERING, PROUDLY ANNOUNCES A NEW AND IMPROVED GRICO UNIT UNDER PATENT NO. 2,567,657.



IMPROVEMENT NO. 1

Improved adaptation of Transfer Case to front axle which allows free movement of Transfer Case and eliminates control of torque at this point.

IMPROVEMENT NO. 2

Cast alloy cross member having torsional arms with rubber pads to support Transfer Case.

IMPROVEMENT NO. 3

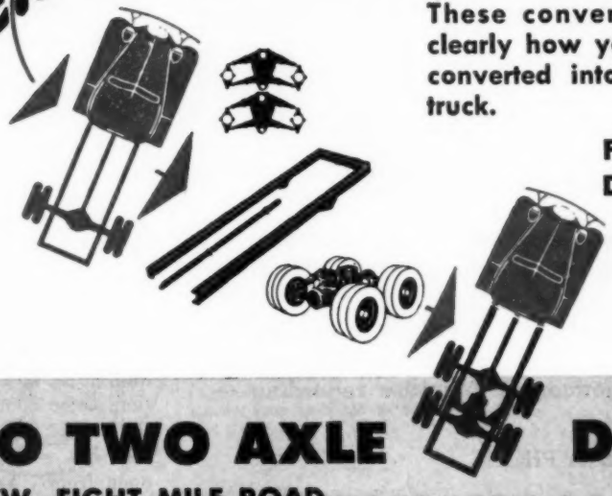
Enlarged and perfectly sealed telescopic torque housing.

IMPROVEMENT NO. 4

Increased axle housing length and the latest design in hydraulic brakes.

HEAVY DUTY PERFORMANCE

from MEDIUM DUTY trucks . . .



These conventional drawings show clearly how your medium duty truck is converted into a heavy duty "profit" truck.

FOR MORE TECHNICAL DATA AND LITERATURE WRITE TODAY TO GRICO AT ADDRESS BELOW:

GRICO TWO AXLE DRIVE Company

19840 W. EIGHT MILE ROAD

DETROIT 19, MICHIGAN

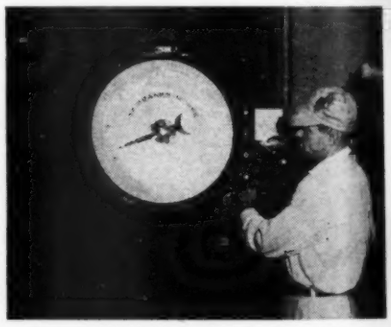
Axle Load Scale Grosses $15,000 a Year

ONE AXLE-LOAD scale has been a vital factor in developing a large truck service business for Knecht's Acme Service Station in Kansas City. This 50,000-lb capacity Fairbanks-Morse scale is bringing an average of 5000 trucks a month into the station, not only providing substantial income from weighing fees but also promoting the sale of gas, oil, and tires.

With this volume, even the 25-cent weighing fee adds up to a respectable $15,000 a year. But Knecht is concerned too with the effects on other phases of his business. When 5000 truckers stop at a service station for any reason, some are bound to find it convenient to fill up their gas tanks, get a lubrication or wash job or charge their batteries. The Knecht station is averaging gasoline sales of 100,000 gal a month, 400 to 500 grease jobs, 300 wash jobs.

Bob Knecht started business at his present location on West 9th St. on July 1, 1949, with definite plans to build volume in services to truckers. His chosen location is in the heart of Kansas City's central industrial district where literally thousands of trucks operate every day making pickups and deliveries at warehouses and manufacturing plants. He secured a large lot extending all the way from 8th to 9th St. with 200 ft of frontage on 9th, so that he would have plenty of parking space for trucks and trailers.

At the time he set up the station, Knecht installed a Fairbanks-Morse axle load scale capable of showing 10-lb gradations up to 50,000 lb. Truckers can roll up beside the station office on to the 8 by 10 ft scale platform. The dual-faced dial is visible through a window to the driver and also to the



weigh master inside the station. As each axle is rested on the platform, the weight is recorded on a ticket.

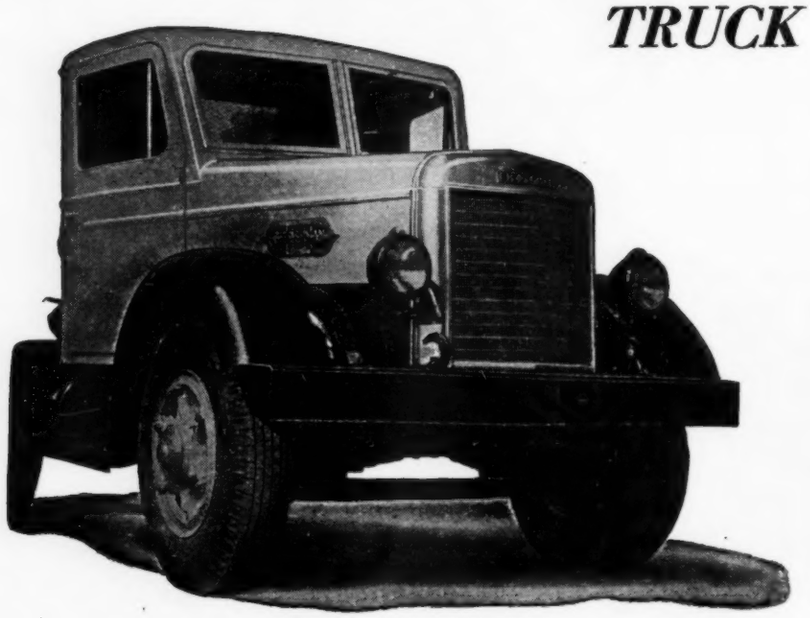
Since the scale was intended primarily to attract trucks to the station, Mr. Knecht made the weighing service as attractive as he could. First of all, he provided 24-hour service, the only public scales in the area, to his knowledge, which are open day and night. Then he set the weighing fee at just 25 cents a truck.

As a result, both individual truckers and fleets began to patronize the station, some coming several miles to use the scale. To provide service, the station has a 7-man crew. The shop is open from 7 a.m. to 7 p.m. seven days a week. A tire man is on duty till 10 p.m. Then, from 10 p.m. to 7 a.m., one man handles the station, operating the scale and selling gas and oil.

THE

BIEDERMAN

TRUCK



An All-Star Truck
Constructed of All-Star Units
Doing an All-Star Job Since 1920

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealerships solicited.

WRITE, WIRE or PHONE

BIEDERMAN MOTORS CORPORATION

CINCINNATI 14, OHIO

HYDRAULIC BRAKE REPAIR PARTS

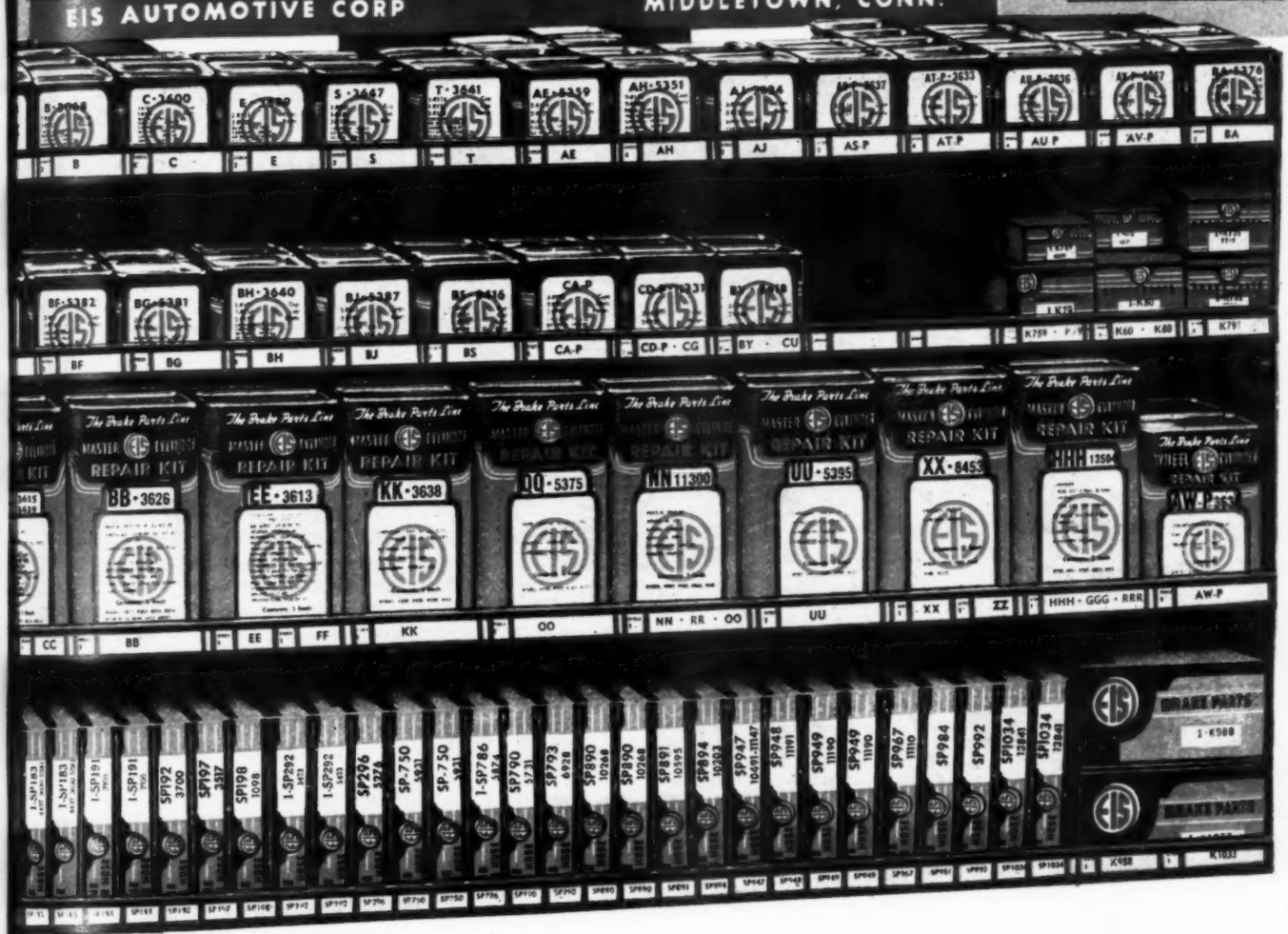
CABLES · FLUIDS · PARTS

The Brake Parts Line

KITS · TOOLS · CYLINDERS

EIS AUTOMOTIVE CORP — MIDDLETOWN, CONN.

WALL CHART GIVEN
Provides lightning-fast reference — quicker than the average catalog. It's simple and durable. Hangs on wall. Furnished with these EIS Merchandisers.



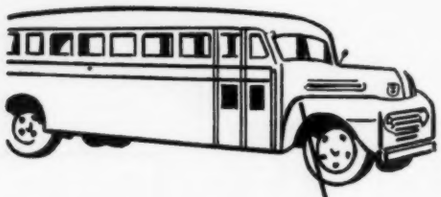
EVERY PACKAGE IN ITS PLACE — A PLACE FOR EVERY PACKAGE!

EIS packages know their place in this Merchandiser. GROOVED TRACKS keep them standing neatly and in proper position for easy service — easy re-stocking. Numbers are clearly marked. Room for expansion shows at a glance.

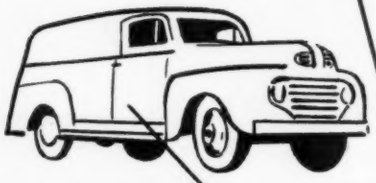
CABINET SIZE — 30" x 17" x 9¼" FURNISHED IN VARIOUS PRICED COMBINATIONS

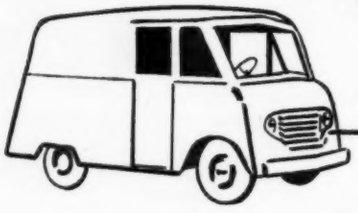
Services practically all Wheel and Master Cylinders on most popular model cars — Ford, Chevrolet, Plymouth, Buick, Dodge, Chrysler, Oldsmobile, Nash, Pontiac, Mercury, Lincoln, Cadillac, Packard, Hudson, Kaiser, Frazer, Willys, Studebaker and most light trucks.

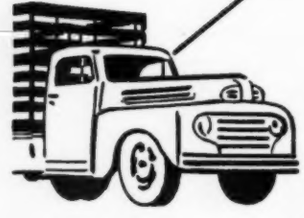
EIS REPLACEMENT STANDARDS MANY TIMES EXCEED THOSE SET FOR ORIGINAL EQUIPMENT! ALL UNITS, BRAKE FLUIDS, AS WELL AS COMPONENT PARTS ARE ENGINEERED AND PRODUCED UNDER ONE ROOF. PRODUCT CONTROL IS GUARANTEED FROM START TO FINISH!



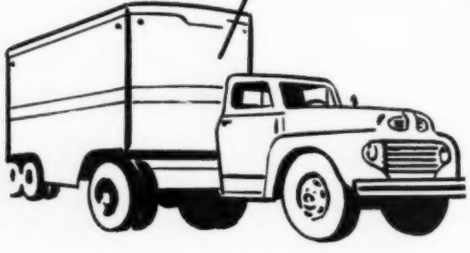
DON'T ACCEPT LESS...







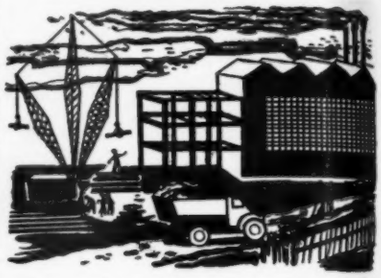
KESTER'S BEST



KESTER SOLDER COMPANY
4205 WRIGHTWOOD AVENUE, CHICAGO 39, ILLINOIS
NEWARK 5, NEW JERSEY • BRANTFORD, CANADA

KESTER SOLDER

FACTORY FLASHES



Trailmobile, Inc., Cincinnati, Ohio, is spending over one million dollars on expansion and re-layout of its present plant in that city.

Jahn Trailer Division, Pressed Steel Car Co., will fill a Defense Department, five and a half million dollar order for 12-ton semi-trailers at its Hegewisch, Ill., plant.

Goodyear Tire and Rubber Co., Akron, Ohio, recently turned out its 575,000,000th pneumatic tire for motor vehicles.

KSM Products, Inc., Merchantville, N. J., has opened a new district engineering office in Milwaukee, Wis. Jack Harris will have charge of the ew office as District Engineer.

Laher Spring and Tire Corp., Oakland, Cal., has purchased $100,000 of new machinery for the production of 10,000 bonded brake shoes per day as compared to the original planned production of 2000 daily.

Hart Pressed Steel Corp., Elkhart, Ind., has been sold and a new corporation, **Hart Metal Products Corp.,** formed to carry on the business.

Airco Equipment Mfg. Division, Air Reduction Co., Inc., New York City, has opened a new plant in Union, N. J. The new facility encloses 272,000 sq ft and will house the entire division.

Carter Controls, Inc., Lansing, Ill., has just been formed by J. Carter Miller for the manufacture of hydraulic and pneumatic equipment.

White Machine Works, Eau Claire, Wis., have opened a new Atlanta,Ga., warehouse at 1362 Spring St., N.W.

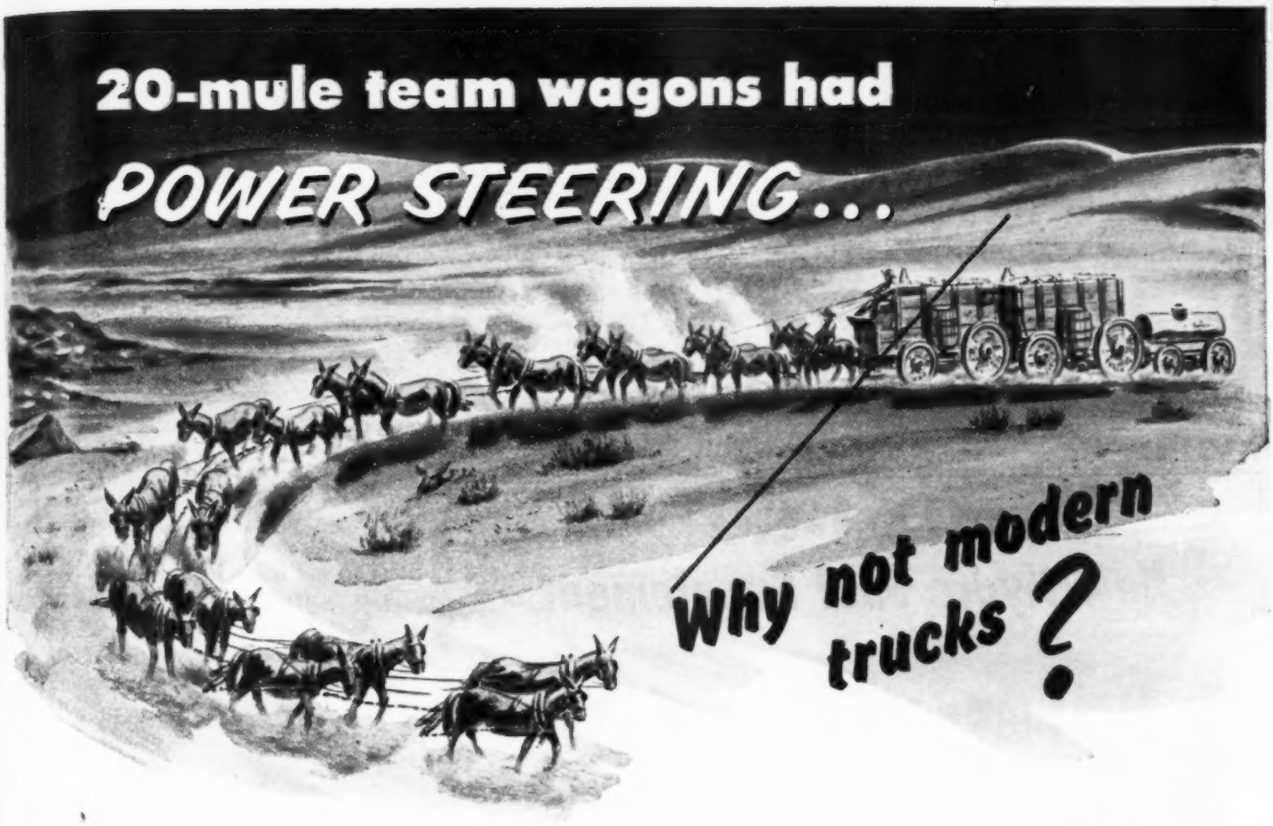
Hall Scott Motor Division, ACF-Brill Motors Co., will fill a two million dollar contract for the manufacture of ammunition at its recently completed plant in Richmond, Cal.

Ford Motor Co. is now designing and marketing all of its own special tools required in service work. They will be sold through the company's dealer organization.

Clevite Corp., is the new name of the **Cleveland Graphite Bronze Co.**. Cleveland, Ohio.

Bendix Aviation Corp. has established a new manufacturing division to produce a line of commercial hydraulic products for the automotive trade. The new division, known as the **Lakeshore Division,** will be located at St. Joseph, Mich.

20-mule team wagons had POWER STEERING...



As the primitive 20-mule team wagons loaded with borax creaked their way 167 miles out of the bitter wastes and murderous heat of Death Valley, the drivers had the benefit of power steering. The mules furnished the power for steering as well as propulsion of the two 4-ton wagons. The driver only guided the mules.

Today's truck transport is generally superior in every way but one. Too often the far heavier manual steering load is on the arm, shoulder and back muscles of the driver. This tiring work slows him down, reduces his efficiency, makes him "accident-prone."

Vickers Hydraulic Power Steering makes the heaviest vehicle almost effortless to steer . . . even under the brutal conditions of nearly roadless deserts like Death Valley. A light finger touch is enough. Ruts, soft shoulders, obstructions, flat tires, off road conditions cannot cause wheel spin or loss of control. Steering no longer fatigues the driver—he remains fresh, efficient, safe.

For further information on Vickers Hydraulic Power Steering, ask for Bulletin M-5100.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
1418 OAKMAN BLVD. • DETROIT 32, MICH.

Application Engineering Offices: ATLANTA • CHICAGO (Metropolitan) CINCINNATI • CLEVELAND • DETROIT • HOUSTON • LOS ANGELES (Metropolitan) NEW YORK (Metropolitan) • PHILADELPHIA • PITTSBURGH • ROCHESTER ROCKFORD • SEATTLE • TULSA • WASHINGTON • WORCESTER

4925

VICKERS hydraulic
POWER STEERING
Is Effortless, Positive and Shockless

CCJ LEGAL CORNER

You've Got to Know Tax Law

IGNORANCE of the law is no excuse for breaking it.

The U. S. Treasury puts teeth into that maxim by charging "fraud" whenever it gets an income tax return that favors the taxpayer too much. The Treasury says hiring someone to prepare the return is no defense. Every person should know all about the tax laws and if his lawyer or accountant makes a mistake the taxpayer should correct him and tell the expert how to do it. The government claims you can't drop your books and records into the lap of a lawyer and say "Make out my income tax return." You must check his work and see that it is accurate.

The tax court has said "A taxpayer cannot escape the responsibility for the correctness of his tax return by committing its preparation entirely to another. When the taxpayer signs and files the return he swears that it is a true and complete statement of all his gains and if his income is understated it is evidence of fraud."

The penalties for fraud are serious. The minimum is an addition of 50 per cent to the tax due, the maximum is a fine and stiff jail sentence.

Lately, judges have been balking a little at this and have ruled against the government in several cases. The Treasury hasn't given up without a fight in any of them.

The latest involved a Wyoming ranch used to raise rodeo stock and beef cattle. This business was being built up from scratch and the owners were putting most of their profits back into the business. They had an accountant prepare their income tax return every year and he figured things so their net income was quite low. The tax commissioner claimed they should have known they were making more money than the accountant figured and should have insisted upon paying a larger tax. The government won the first two rounds in the fight, but Mark Davis and his wife, the taxpayers, appealed to the United States Court of Appeals and Judge Pichett decided for Davis, saying:

"When a taxpayer selects a competent tax expert, supplies him with all necessary information, and requests him to prepare proper tax returns, we think the taxpayer has done all that ordinary business care and prudence can reasonably demand. . . . We doubt if anyone would suggest that a client who stated the facts of his case to his lawyer must, in order to show ordinary business care and prudence, inquire specifically about the applicability of various legal principles which may be relevant to the facts stated. The courts have recognized that reliance on the advice of counsel or of expert accountants, sought and received in good faith is "reasonable cause" for failing to file a tax return."

MIX-I-GO

New Hydro Fuel Supplement

Cuts Fuel Costs 10% or More!

SLASHES MAINTENANCE COSTS

DISCOVERY CLIMAXES 30 YEARS RESEARCH

Many fleet operators are slashing operating costs by using an amazing new fuel additive called MIX-I-GO. This product was developed by Dr. R. J. Bell, a well known chemist, fuel authority and inventor. After over thirty years of research in the field of fuel and lubricating supplements, Dr. Bell discovered the Mix-I-Go formula whereby water molecules are suspended in an oil base. The addition of small quantities of MIX-I-GO gives *Super-Fuel Features* to ordinary gasoline and diesel fuel.

What will MIX-I-GO do for you?

MIX-I-GO cuts fuel consumption by 10% or better, cuts maintenance costs by even more! Ends valve troubles. Gives greater mileage, increased power, a cleaner engine, less breakdowns, longer engine life and quicker starting. What's more, MIX-I-GO is *guaranteed* to be completely harmless to any gasoline or diesel engine. These facts are verified by testimonial letters and case histories from fleet operators throughout the United States and in many foreign countries.

Here's How MIX-I-GO Works

1 MIX-I-GO's hydro vapor slows down and prolongs combustion. Gives a long, powerful stroke. Means less vibration of the connecting rod and drive shaft — less wear on the piston and bearings.

2 MIX-I-GO's hydro vapor helps remove carbon deposits from the combustion chamber, pistons, spark plugs and valves.

3 MIX-I-GO leaves a thin film of lubricant on upper cylinder walls. Protects them from rust and corrosion.

4 MIX-I-GO absorbs moisture in the fuel system, holds it in suspension and converts it into extra power.

YOU'LL GET BIG SAVINGS WITH MIX-I-GO

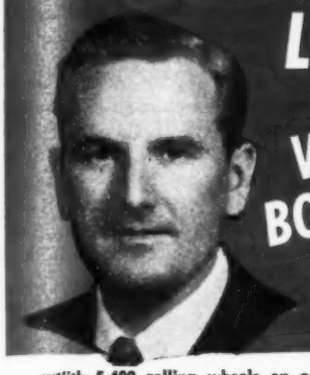
Test MIX-I-GO in your trucks and automobiles. Just add it to the fuel you now use—that's all there is to it. You'll be amazed at the way your fuel and maintenance costs go way down. One of our sales engineers will be happy to show you how MIX-I-GO can cut your operating costs. Start using MIX-I-GO right away and *save money.*

Call, write or wire today!

BELL LABORATORY, INC.

ORLANDO, FLORIDA

Perfect Shipping with Planned Safety . . .
Long Mileage with Low Cost . . .
WE GET BOTH WITH Firestone TRANSPORTS



"With 5,400 rolling wheels on our equipment, tire cost per mile is a factor that we watch very closely.

The Firestone Transport Tire gives us long low cost mileage on front wheels, drive wheels, and trailer wheels. Such an all-wheel tire represents a substantial factor in reducing our tire cost."

Wilson House, President
Eastern Motor Express, Inc.
Terre Haute, Indiana

Wilson House, President, Eastern Motor Express, Inc., standing, and his brother, Clarence House, in cab.

SERVING the great industrial and agriculture belt that lies between St. Louis and Chicago on the west, and Baltimore and New York City on the east, the Eastern Motor Express Fleet covers more than 29 million miles a year.

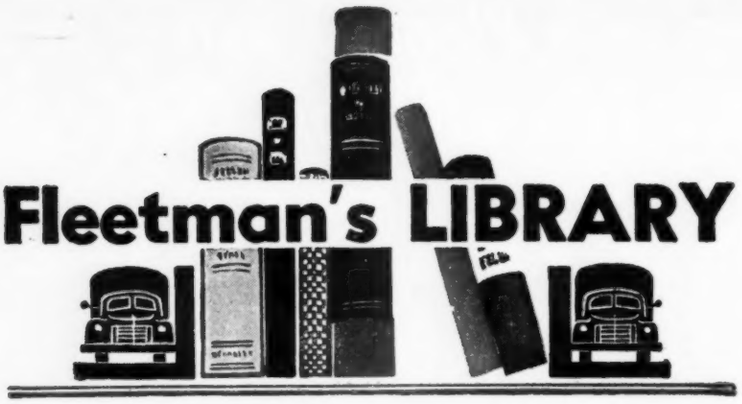
Like many other successful operators, Eastern Motor Express has found that the extra long mileage of Firestone Transports has helped reduce tire cost per mile. Firestone Transports have also proved themselves as an all-position tire — on front wheels, on drive wheels, and on trailers.

Let your Firestone Dealer or Store give you all the facts about the new Firestone Transport — the tire that is engineered for today's and tomorrow's trucking needs — the tire that will cut your cost per mile.

GET LONGER TIRE MILEAGE . . . SAVE MONEY . . . SPECIFY FIRESTONE TRANSPORTS

Enjoy the Voice of Firestone on radio or television every Monday evening over NBC

Copyright, 1952, The Firestone Tire & Rubber Co.



"Driver's Handbook and Safety Manual" is a pocket-sized manual covering do's and don'ts of good driving and Federal safety regulations applying to interstate drivers of private motor trucks. It comes as a complete publication at .30 to .20¢ a copy depending on quantity, or in loose form for incorporation in a company safety manual at $150 per thousand. For details write to National Council of Private Motor Truck Owners, Inc., Kass Bldg., Washington 5, D. C.

Parts List for Trailer Landing Gear Model No. 25000 is available from Binkley Mfg. Co., Warrenton, Mo.

"The Case for Re-Refined Oil" is an 87-page booklet describing the method of re-refining oil and the uses it has in the fleet field. Copies are available at cost from the Assn. of Petroleum Re-Refiners, 1917 Eye St., N.W., Washington 6, D. C.

NFPA Standards for Fire Protection and Prevention in Transit Operations, No. 83 has just been revised and published. Covering both buildings and vehicles (buses, trolley buses and trolleys), copies are available at 50¢ each from National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass.

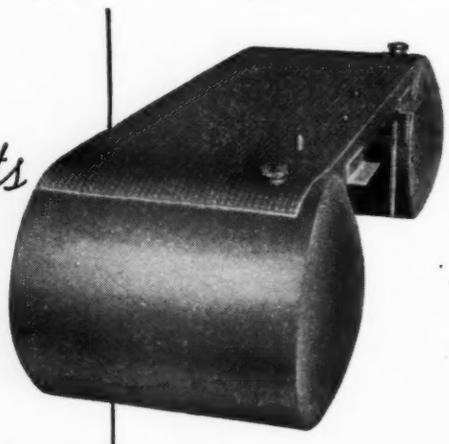
City and county **street finder maps**, produced by Hearne Brothers, 25th Floor, National Bank Bldg., Detroit, are described in their new 14-page catalog. The maps show all streets, avenues, roads, railroads, parks, etc., and the house numbering system in both the downtown and the suburban parts of the area covered by the map. Streets are mechanically indexed for quick location.

ICC Bureau of Motor Carriers Safety Regulations as revised and effective July, 1952, are available from U. S. Government Printing Office, Division of Public Documents, Washington 25, D. C. Write for Catalog No. IC 1 mot.6:Sa 1/952. Price, 20¢ each.

"Weldability of Metals," a 141-page book explains factors determining weldability, gives causes and cures for hard to weld metals, and details welding procedures for steels, nickel, iron, alloys, copper, aluminum and hardfacing. This book, a reprint of a section of the 9th edition of "Procedure Handbook of Arc Welding Design and Practice," is available from Lincoln Electric Co., 22801 St. Clair Ave., Cleveland 17, Ohio, at 50¢ per copy.

"Truck and Bus Drivers' Rule Book" is a handy, 3½ by 5½ in., pocket-size digest of the 1952 revision of the Interstate Commerce Commission Motor Carrier Safety Regulations as they apply to common, contract and private carrier drivers. The booklet is available in quantity at cost and information may be obtained from the Association of Casualty and Surety Companies, 60 John St., New York City 38.

Lubrication department layout is covered in a new 24 page bus, truck and fleet catalog. Large illustrations graphically point out the advantages of adequate lubrication facilities and how proper arrangement cuts costs. Ask for catalog No. 302 from The Gray Co., 1014 Sibley St., Minneapolis 13, Minn.



cut costs

build long profit with

new **LINTERN**

Cylsad

The new Lintern Cylsad Saddle Tank — designed to cut installation costs over other types — now gives you extra payload pounds, because it is stripped of all unneeded weight, average of fifty pounds lighter, operators automatically gain this extra weight for payload.

And like all Lintern standard tanks, the new Cylsad meets latest ICC requirements and is inspected by Underwriters Laboratories. Utilizing the long accepted principles of design that cylinder tanks offer greatest resistance to damage, the Cylsad is likewise crash-proof.

The Cylsad utilizes proven principles of design for greatest safety; plus superior operating advantages.

Call your Lintern supplier or write today for complete details.

the *Lintern* **corporation**

P. O. BOX 428
PAINESVILLE, OHIO

January Roundup

Continued from Page 62

Assns. Research Department. ATA's third quarter truckloading index dropped, to 215 compared to the record high of 221 during the third quarter of 1950 and the base year of 100 in 1941.

Northeastern Weights

Northeastern Regional Conference on Highway Safety and Motor Vehicle Problems at its annual meeting urged participating officials to continue without change for the present their existing size and weight limits. The recommendation followed a report on the Maryland Road Test by U. S. Bureau of Public Roads Deputy Commissioner H. S. Fairbank.

1952 Truck Trailer Shipments*

	October	Ten Months
Vans		
Insulated and refrigerated	324	2,801
Steel	75	758
Aluminum	249	2,043
Furniture	.....	.....
Steel / Aluminum	161	1,230
All other closed-top	1,903	13,599
Steel	852	7,317
Aluminum	1,051	6,282
Open-top	275	1,985
Steel	162	987
Aluminum	113	998
Total—Vans	2,663	19,615
Tanks		
Petroleum	410	3,657
Food	30	243
L.P.G.	13	110
All other	9	295
Total—Tanks	462	4,305
Pole, pipe and logging		
Single axle	101	803
Tandem axle	79	1,351
Total	180	2,154
Platforms		
Racks, livestock and stake	194	3,582
Grain bodies	108	985
Flats (all types)	788	6,443
Total—Platforms	1,090	11,010
Low-bed heavy haulers	467	4,845
Dump trailers	87	856
All other trailers	159	1,568
Total—Complete trailers	5,108	44,353
Converter dollies	46	779
Trailer chassis	260	2,887
Total—Trailers and Chassis	5,414	48,019

* Industry Division, Bureau of the Census.

New Diesel Engine

Scheduled for exhibit at the National Motor Boat Show in New York City this month is a new marine diesel engine made by Detroit Diesel Engine Division, General Motors Corp., Detroit. Unique feature is the elimination of intake and exhaust valves as well as the usual valve operating mechanism, their functions being handled by suitable ports in the cylinder liners. Known as the Model No. 4-51, it is a 4-cyl engine with 216 cu in. displace-

(TURN TO PAGE 158, PLEASE)

1952 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	31,102	15,649	4,873	16,666	4,909	8,323	3,971	85,493
February	31,005	15,506	5,055	17,416	3,856	8,239	4,080	85,157
March	34,732	16,896	5,037	18,104	3,843	9,290	4,712	92,614
April	39,302	19,614	4,743	17,358	3,348	9,262	4,483	98,110
May	35,978	20,006	4,555	14,891	3,029	9,286	3,238	90,983
June	39,214	20,761	4,628	15,632	2,999	8,198	3,530	94,962
July	13,717	7,582	1,537	4,820	1,075	4,468	3,032	36,231
August	20,100	8,329	1,628	5,877	944	5,812	2,516	45,204
September	47,102	19,944	3,354	14,350	2,268	9,226	3,131	99,375
October	57,189	23,449	4,586	16,046	2,579	9,106	3,494	116,449
Ten Months—1952	349,441	167,736	39,994	141,160	28,850	81,210	36,187	844,578
Ten Months—1951	458,296	200,878	76,246	173,052	47,104	60,125	33,903	1,049,604

* Automobile Manufacturers Association.

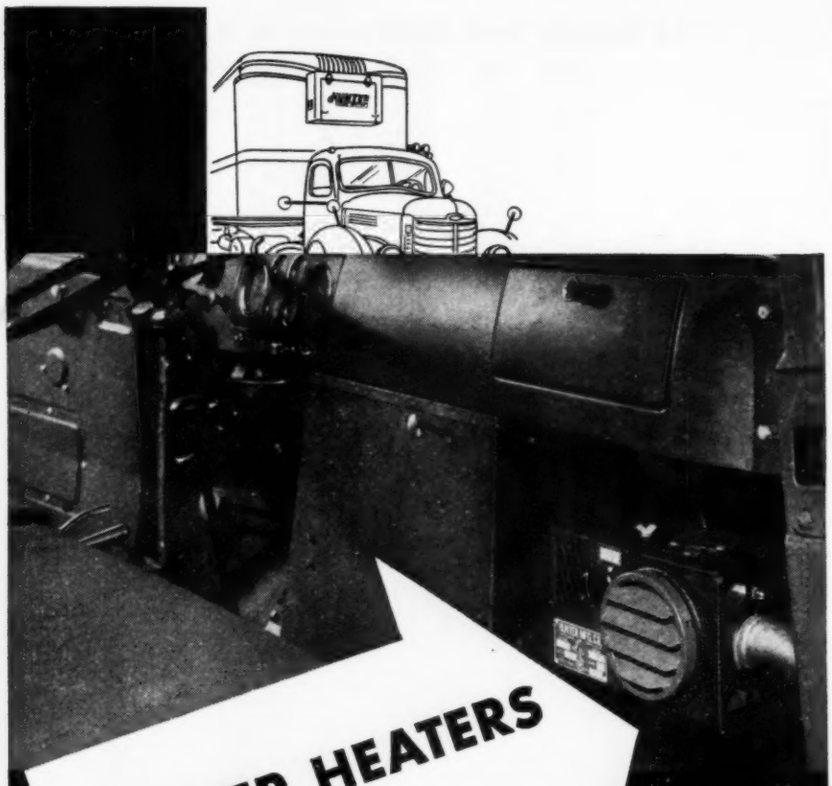
This remarkable, newly designed Marquette Aircraft Torch welds up to ⅜-inch metal with ease. It's the ideal torch for scores of Automotive and Aircraft jobs . . . preferred on body and fender welding, for aluminum and white metal. Cutting assembly easily cuts up to 2-inch steel . . . outperforms others much larger in size. You'll like its outstanding new features, O-Ring seals, fingertip controls. Write for complete information.

MARQUETTE

Welding & Automotive Service Equipment

MARQUETTE MANUFACTURING CO., INC.

307 E. Hennepin Avenue • Minneapolis 14, Minnesota



HUNTER HEATERS meet ICC REGULATIONS

CUT HEAT COSTS BY HALF OR MORE!

- for gas or diesel rigs
- gasoline burning
- operate independent of vehicle engine
- eliminate costly engine idling for heat
- average only 1 pt. of fuel per hr.
- sub-zero starting, unfailing combustion
- safe, dependable, compact, easily installed.

Write for bulletin, full information.

HUNTER HEATERS FOR EVERY TRANSPORT NEED
Truck Cabs ● Trailers ● Delivery Bodies
Walk-ins ● Utility Bodies ● Military Units
HUNTER CARGO COOLERS
Controlled Dry-Ice Refrigeration Systems
ALSO AVAILABLE IN COMBINATION UNITS WITH HUNTER HEATERS

HUNTER MANUFACTURING CO.
1550 East 17th Street • Cleveland 14, Ohio

January Roundup

Continued from Page 157

ment, 4.1-in. bore and stroke, 80 hp at 2500 rpm with accessories and 18 to 1 compression ratio. While offered only for marine use at present, indications are that it is conceivable that some time in the future the new engine may be available for vehicle and industrial use.

Wheel and Rim Assn.

New. 1953 officers of the National Wheel and Rim Assn. are: President, D. P. Hurley, Jr., New England Wheel and Rim Co.; Vice President, Sam I. Vaughn. Southwest Wheel, Inc.; and Treasurer. H. M. Young, Borhein-Young and Co.

L. M. Olson New Sodrin Head

L. M. Olson, who resigned his position at R. M. Hollingshead Corp., and H. A. Weymouth have purchased the Sodrin Mfg. Co., Kansas City, Mo. Olson has assumed the presidency of the company which will eventually be renamed the Olson Corp. No immediate change in the chemical company's structure or products is contemplated.

Oregon Ton Mile Tax

Following approval of Oregon's ton mile tax by state-wide referendum in the November elections, state Attorney General George Neumer has ruled that it must be paid retroactively to January 1, 1952. Court appeal is expected.

Atlanta Truck-Rail Terminal

To serve the industrial areas of Atlanta and Tucker, Ga., a new $12,000,000 combined truck-rail terminal and warehouse is being planned, according to Scott Candler, commissioner of roads and revenue. It will be financed with revenue certificates and paid for by rental of space to commercial users.

Safety Awards

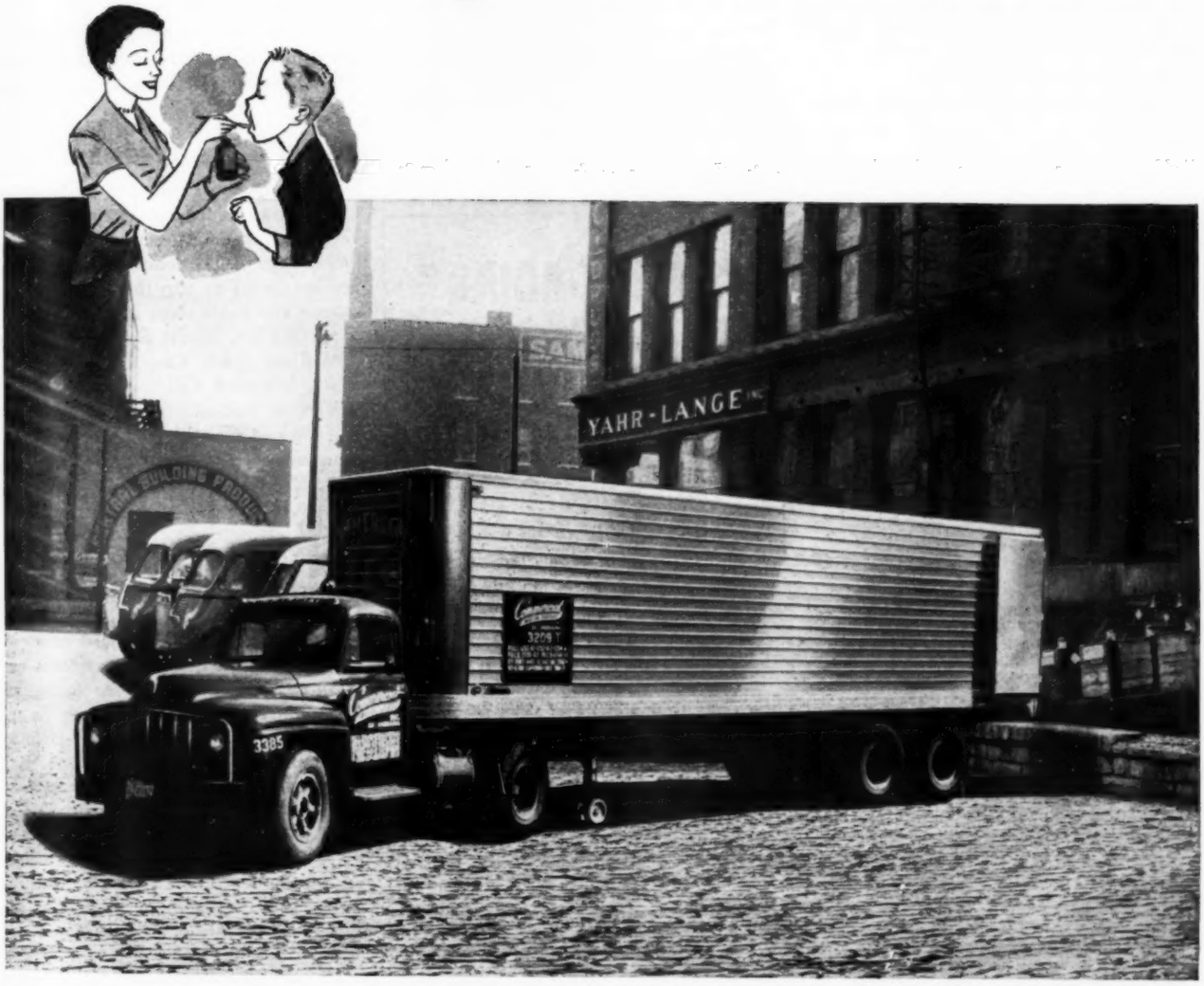
Safe truck drivers came in for their share of attention with the following companies awarding their top men:

Southwestern Transportation Co., Texarkana, Texas, to 10 accident free drivers. Five received a bonus of $120 and a 21-jewel watch.

Southern Express, Inc., Dallas, Texas, to 5 Waco terminal drivers.

(TURN TO PAGE 160, PLEASE)

Prescription Filled?



Typical of the vital service rendered by the motor freight industry is that of the Commercial Motor Freight, Inc., of Indiana.

CHANCES are that the ingredients for the last prescription you had filled were shipped by motor carrier. Yes . . . name any products . . . name any destination — and you'll be naming a product shipped or a point served by motor freight.

With 75 out of every 100 pounds of freight being moved today by dependable, low-cost motor carrier, civilian and military life is becoming more and more dependent on America's great fleets of trucks and trailers.

In many of these fleets, costs have been cut by converting to Brown lightweight aluminum trailers that put the weight in the freight. They reward operators with a reasonable profit for the vital service they are rendering.

Many leading operators are waging war against high costs with Brown's bigger payloads. A service so vital to the nation deserves the best — Brown Lightweight Aluminum Trailers.

✓Lighter Weight
✓Bigger Payloads
✓Increased Profits
Brown aluminum trailers
TOLEDO • SPOKANE • READING
Distributors in principal cities

January Roundup

Continued from Page 158

Mound City Forwarding Co., Inc., St. Louis, Mo., to 45 drivers. Those with 10-yr records also received wrist watches and those with 5 to 8-yr records, cigarette lighters.

McLain Trucking, Inc., Muncie, Ind., to 19 drivers, including one 12 and one 10-yr accident free record.

The Truckaway Corp., Pontiac, Mich., to 141 drivers with accident free records of from 1 to 16 yr.

Hart Motor Express, St. Paul, Minn., to 20 drivers, including 2 with safe driving records of over 1,000,000 miles each.

Hillside Transit Co., Inc., Milwaukee, Wis., to 85 drivers with 1 to 20-yr safe driving records.

Hall Freight Lines, Inc., Danville, Ill., to 70 drivers with at least one year without an accident, with watches going to 5 with 12 to 20-yr records.

F. J. Boutell Driveaway Co., Inc., Flint, Mich., to their top 20 safe drivers, winners in the company's Champ Car Carrier Contest.

Scherer Freight Lines, Inc., Ottawa, Ill., to 27 Chicago terminal drivers.

Des Moines Transportation Co., Des Moines, Iowa, a total of $6000 to 44 over-the-road drivers.

M and D Motor Freight Lines, Dallas, Texas, $50 defense bonds to 7 drivers with 5-yr records and one $100 defense bond to a driver with a 10-yr record.

Buyer's Guide Additions

As might be expected of so large an undertaking as the listing in CCJ's November Buyer's Directory number, there were a few omissions. Readers are requested to clip the following additions and paste them in the directory.

PACKERS, Wheel Bearing.

William Turk Co., 11070 S. Alameda, Lynwood, Cal.

RINGS, Piston.

American Hammered Automotive Replacement Division (Sealed Power Corp.), 500 Sanford St., Muskegon, Mich.

New York's Gross Weights

Responding to a large protest from all segments of the trucking industry, New York State's Commissioner of Motor Vehicles issued a statement explaining how operators can correct inequitable gross weight assessments resulting from the state's new vehicle maximum gross weight schedule. Said the statement, excess registration fees will be refunded upon presentation of satisfactory evidence that the gross weight of any vehicle is less than that produced by use of the new schedules, or owners of particular classes of vehicles may present evidence and request a revised schedule where it can be shown that the new schedules do not reflect the true maximum load.

END

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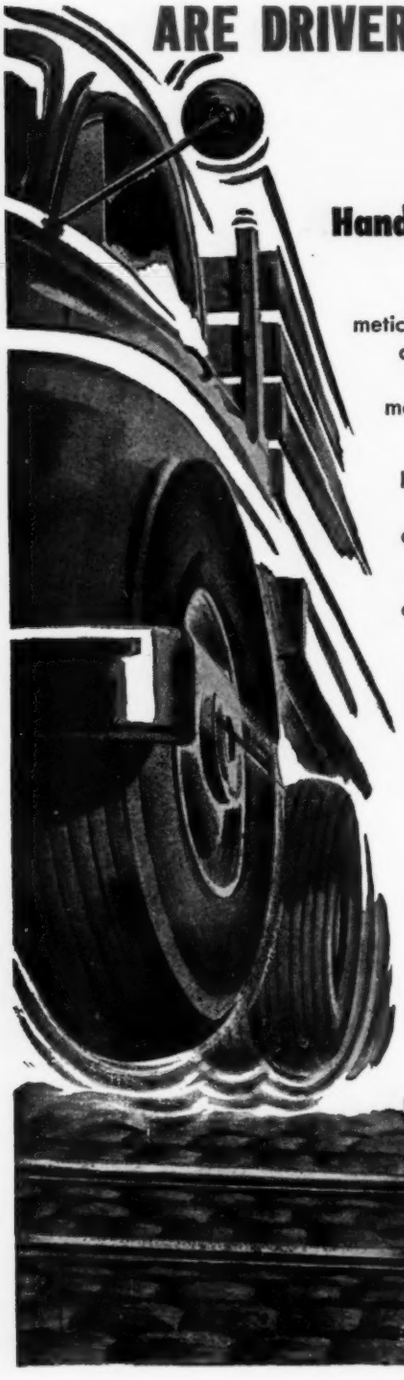


ARE DRIVERS "RAILROADING" YOUR VEHICLES?

Handy Governors Will Stop It

Any driver is likely to be less than meticulous in his care of a vehicle he doesn't own. Many feel no compunction about "railroading" your vehicles. Drivers do most of their work away from supervision . . . abuses are hard to correct.

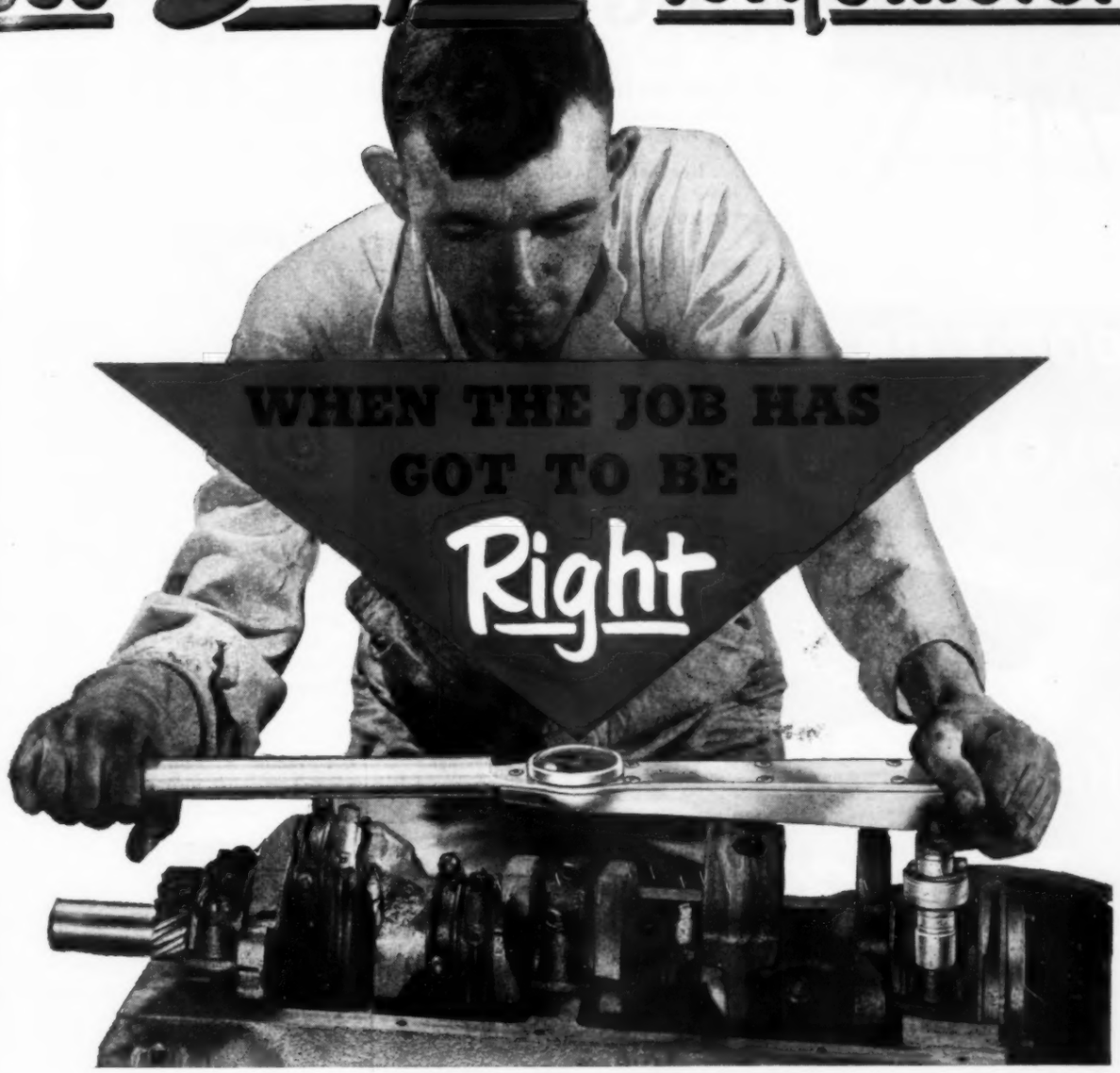
Handy Governor will stop "railroading" —stop practices which run up costs and wear out vehicles before their time.

The savings in tire, fuel, and lubricant costs, engine repairs, brake maintenance and general maintenance are spectacular. Reduced accident and insurance costs are equally important.

Let us show you some figures on savings — and tell you how little it costs to get them.

KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN
PLANTS AT
ANN ARBOR, SCIO,
YPSILANTI

Use Snap-on* Torqometers



When the dial of a Snap-on Torqometer tells you the job is *right*—Mister, you can bank on it... it's RIGHT! Your work is certified. There'll be no comeback. That's why, in shops everywhere, top-notch mechanics *reach for a Torqometer* on every operation where bolt tension is specified. On main bearings. *Cylinder heads.* Connecting rods. *Manifold nuts.* Spark plugs. And on *all important operations* in servicing every type of automatic drive.

Snap-on builds the right size Torqometer for every kind of job. 17 models, 0-30 inch pound to 0-2000 foot pound torque capacity. Next time your Snap-on man calls let him demonstrate a Torqometer *on the job,* and help you choose the right model for your work. For free book of Torque specifications covering all makes of cars, trucks, tractors, industrial engines, and big 104-page Snap-on catalog, ask your Snap-on Man, or write direct to Snap-on.

SNAP-ON TOOLS CORPORATION

8026-A 28th Avenue, Kenosha, Wis.

* Snap-on is the trademark of Snap-on Tools Corporation.

. . . **Harold Hopkins,** as Indianapolis terminal manager, Holland Motor Express Co., Holland, Mich.

. . . **Herbert T. Andrew,** as Detroit territory sales representative. Standard Pressed Steel Co., Jenkintown, Pa.

. . . **Harold P. Hansen,** as general sales manager, and **Rudolph J. Hermann,** as assistant sales manager, Dole Refrigerating Co., Chicago.

. . . **C. M. Harrington,** as representative, Automotive Tools Division, J. H. Williams and Co., Buffalo, N. Y.

. . . **Earl H. Schaub,** as manager, new distribution, and **J. W. Bogle, H. B. Nelson** and **Ori T. Lee,** as divisional sales managers in Boston, Buffalo and Akron respectively, General Tire and Rubber Co., Akron, Ohio.

. . . **Leo B. Brown,** sales manager, St. Paul Hydraulic Hoist, Minneapolis, Minn.

. . . **Louis E. Weiss,** as general manager, Loadcraft Trailer Division, Spencer-Safford Loadcraft, Inc., Augusta, Kan.

. . . **Abbott F. Stevens,** assistant sales manager, Automotive Division, Van Norman Co., Springfield, Mass.

. . . **Victor E. VanAudenhove,** as Pittsburgh regional manager, Dodge Division, Chrysler Corp., Detroit.

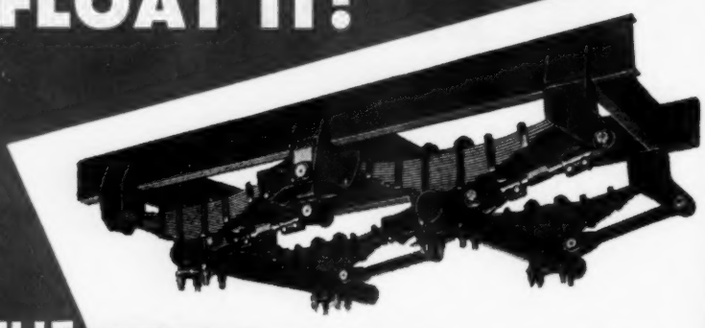
. . . **Thomas L. Camp,** general manager, Service Division, Federal-Mogul Corp., Detroit.

. . . **B. S. Byall,** as sales manager; **H. W. Baker,** as assistant sales manager, and **T. E. Sauters,** as western division manager, Dill Mfg. Co., Cleveland, Ohio.

. . . **Fred Rahe,** left, assistant manager of fleet sales with headquarters in New York City, and **Finis H. Haskins,** right, head of sales management division, Trailmobile, Inc., Cincinnati, Ohio.

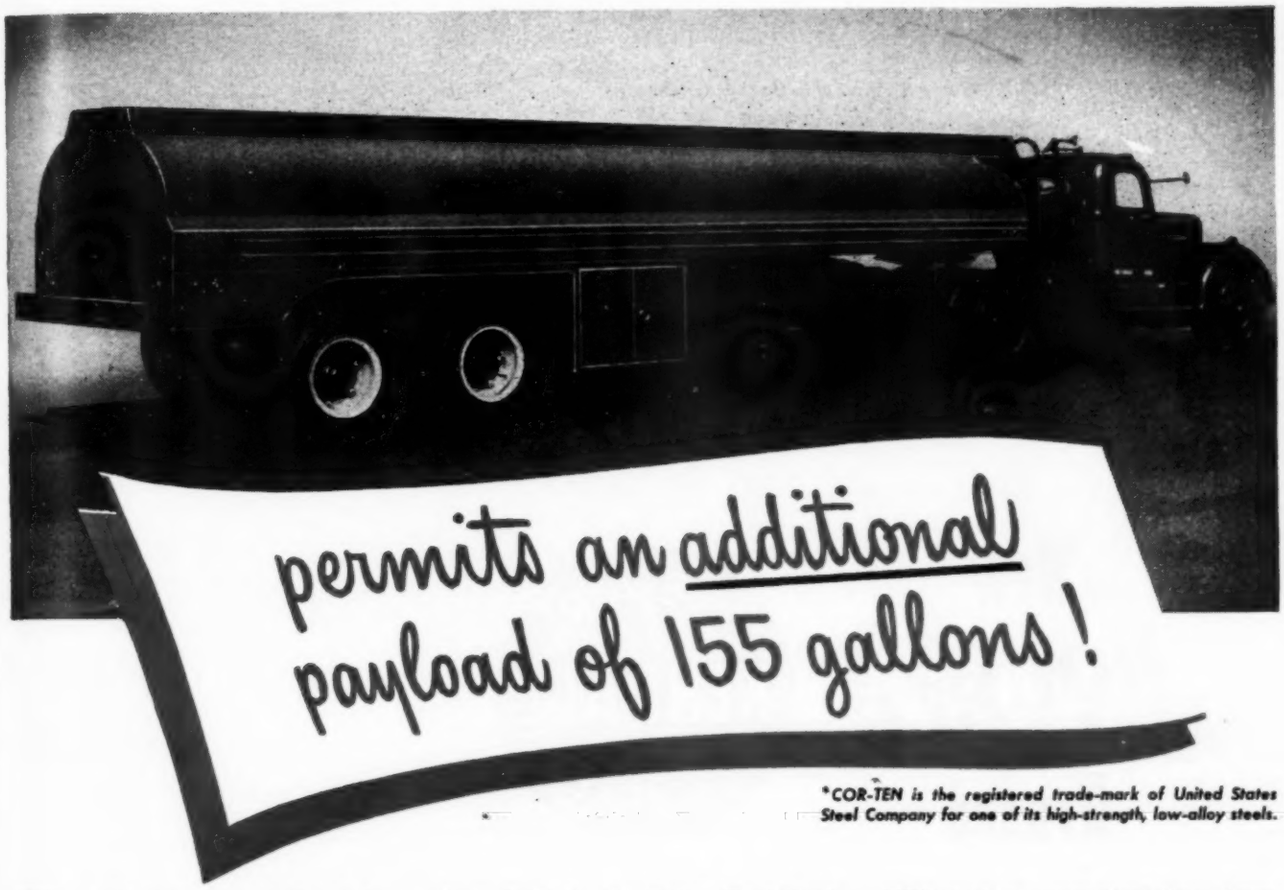
(TURN TO PAGE 164, PLEASE)

DON'T DRAG THE LOAD...
FLOAT IT!



THE Reyco Ride
...means that even the most fragile cargo goes safely!
...reduces maintenance costs to almost nothing, reduces fuel costs and tire wear!
Available as original equipment from America's leading manufacturers. Your present truck or trailer easily converted.
SALES AND SERVICE COAST-TO-COAST AND IN FOREIGN COUNTRIES
REYCO
REYNOLDS MANUFACTURING CO.
SPRINGFIELD, MISSOURI

COR-TEN* STEEL cuts the weight of this tanker by 932 pounds!



*COR-TEN is the registered trade-mark of United States Steel Company for one of its high-strength, low-alloy steels.

WHY haul parasite poundage when you can haul extra payload instead? That, in a nutshell, is the attitude of the trucking industry today.

By building equipment hundreds of pounds lighter with U·S·S COR-TEN high strength steel, smart operators are swapping useless deadweight for additional payload capacity. And every pound trimmed off these transport units increases revenue and decreases operating costs by the savings in fuel, and by the reduction in wear on tires and brakes that this lighter equipment assures.

Take, for example, the tanker shown here. Built by the Brown Steel Tank Company, it can carry 7,000 gallons of gasoline. If it had been built to the same over-all weight with ordinary steel, it could have carried only 6,845 gallons. In other words, 932 pounds of unneeded weight were trimmed off and replaced by capacity for 155 *extra* gallons of gasoline.

These extra gallons ride at no extra cost. Figuring delivery costs low, at only ½ cent a gallon, here's a saving of 77¢ on every 200-mile round trip.

These operating savings and extra profits that lighter construction assures, pay for the slight extra cost of COR-TEN steel in a very short time. From then on, through the life of the unit, you have a clear bonus.

COR-TEN-built units also save money by requiring less maintenance. That's because COR-TEN steel is not only 50% stronger than plain steel, but has 4 to 6 times greater resistance to atmospheric corrosion. In addition, it offers high resistance to load surge and road vibration.

If you want to know how you can make your equipment more profitable —and easier to maintain, a phone call or a letter to our nearest office will bring you all the facts.

UNITED STATES STEEL CORPORATION, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH · TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S COR-TEN High Strength STEEL

USS

2-1296

UNITED STATES STEEL

Introducing . . .

Continued from Page 162

. . . **Arch A. Warner,** as president and general manager, Mechanics Universal Joint Division, and **Harry L. Emerson,** as president and general manager Rockford Clutch Division, Borg-Warner Corp., Chicago.

. . . **Galen R. Vanderlinden** and **Alvin Q. Crumpton,** as sales representatives in the Kansas City and southeastern districts respectively, Willard Storage Battery Co., Cleveland, Ohio.

. . . **William E. McDaniel,** as Omaha replacement tire manager, B. F. Goodrich Co., Akron, Ohio.

. . . **James W. Wilcock,** as assistant general sales manager, McKay Co., Pittsburgh, Pa.

. . . **W. C. Kennedy,** as general sales manager, Industrial Lubricants Co., Inc., Detroit.

. . . **Guy J. Coffey,** as president, Chicago Pneumatic Tool Co., New York City.

. . . **Harry B. Milner,** as Norfolk, Va., factory branch manager, Trailmobile, Inc., Cincinnati, Ohio.

. . . **Harry J. Carroll,** director of traffic, Goodyear Tire and Rubber Co., Akron, Ohio, as a national vice president, National Defense Transportation Assn.

. . . **Robert A. Groat,** as western region general sales manager, Associated Transport, Inc., New York City.

. . . **Frank Kuether,** as executive engineer, Lei Roi Co., Milwaukee, Wis.

. . . **Robert W. Stutt,** as promotional sales manager, Laher Spring and Tire Corp., Oakland, Cal.

. . . **Donald E. Ehlenfeldt,** as advertising manager, Round Chain Companies, Cleveland, Ohio.

. . . **James F. Bishop,** as general manager, American Hoist and Derrick Co., St. Paul, Minn.

. . . **F. A. Christoffer,** replacement brake drum sales manager in addition to his present position as general sales manager, Gunite Foundries Corp., Rockford, Ill.

. . . **A. F. Siers,** as motor truck engineering director, Twin Coach Co., Kent, Ohio.

. . . **Charles R. Crowder,** as director, H. K. Porter, Inc., Somerville, Mass.

. . . **George R. Mackey,** Diesel Service Division head, Clayton Mfg. Co., El Monte, Cal.

. . . **Walter C. Bass** and **C. H. Erbacher,** as branch sales office managers in Ithaca and Detroit respectively, Morse Chain Co., Detroit.

. . . **Gerard F. Markey,** left, district manager, and **Walter Bowers,** right, district representative, in northern N. J., eastern N. Y., New York City and Conn., Toledo Steel Products Co., Toledo, Ohio.

Again Kendall Helps to Lower Operating and Maintenance Costs

New DOUBLE Graded

GEAR KENDALL LUBE

Now—in addition to the first and only All-Weather, All-Purpose Kendall Three Star Gear Lube—Kendall offers the first complete line of All-Oil and Multi-Purpose Hypoid Gear Lubes each meeting two SAE Grades including the new low temperature SAE Grade 75.

A minimum inventory of these new lubes will meet every gear requirement, simplify the gear lubrication job, and increase gear life through exceptional stability and performance at wider operating temperature ranges.

THERE'S A **KENDALL** LUBRICANT for Every Requirement

KENDALL REFINING CO. Bradford, Pennsylvania

the extra
BRAKING STAMINA
proven here...

means greater
DEPENDABILITY
on any
hauling job!

Dam Construction on the Columbia River.

Rugged Bendix-Westinghouse Air Brakes Keep Giant Earthmovers on the Job Day after Day!

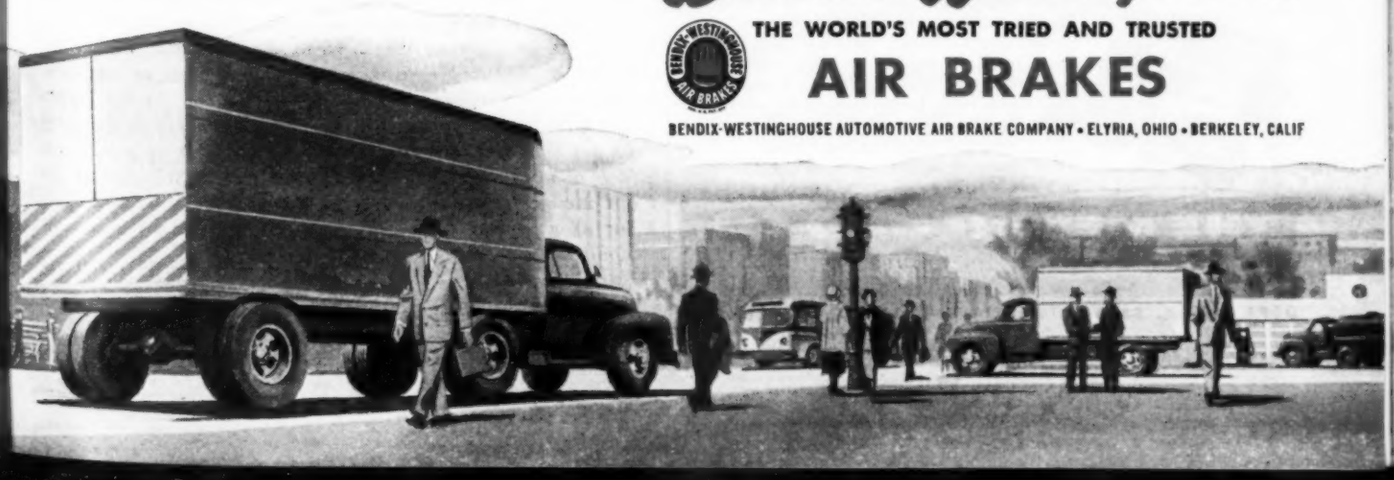
Why not take a braking tip from the men who operate the rugged off-the-road giants. They'll tell you it takes **stopping power, durability and performance-plus** to provide perfect braking control for nearly 50 tons of solid rock and steel, defying gravity up grade and down under the very toughest of operating conditions. Ask them what brakes they choose for this tremendous task and time after time you'll get the same answer—Bendix-Westinghouse. That's because these mighty brakes, built by the industry's most experienced manufacturer, pay off with the **safest, surest, most dependable braking action** and longest service life in the business. And these are factors that mean **reliable, economical performance** on any hauling job. That's why, no matter what type trucks you operate—off-the-road or over the highway, you'll get the most in **safety, dependability and savings** by specifying Bendix-Westinghouse—the world's most tried and trusted air brakes.

Bendix-Westinghouse

THE WORLD'S MOST TRIED AND TRUSTED

AIR BRAKES

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY • ELYRIA, OHIO • BERKELEY, CALIF



Tell the Public the

TRUTH ABOUT TRUCK TAXES

Copyright 1952 Meyercord Co.

Powerful, Eye-Arresting Truck Decal Sign is Fighting Answer to Criticism Against Trucking Industry!

Yellow and Black — Actual Size 12" x 16"

Here is Meyercord's contribution to a much needed wide-scale coordinated industry effort to answer *WITH FACTS* the tremendous press, magazine, radio and television campaign directed against the nation's truckers. This colorful Decal Truck Sign, displayed prominently on the rear of each truck you operate, tells everyone on the road *exactly what the truck contributes in taxes and license fees for road maintenance and for support of state and other taxing bodies.* Individual numerals provide the correct tax figure for each truck; *proves* that the haulers and fleet owners are paying their way! This new Meyercord copyrighted decal sign will become standard on many thousands of trucks. Plan your requirements now . . . write for full information, prices and suggestions for computing your individual truck tax load. This sign is remarkably low in price, easily applied in a few moments, extremely durable and weather resistant. Tax numerals can be changed from year to year as the need occurs. Get the facts today.

MEYERCORD—FIRST ON THE TRUCKS FIRST FOR THE TRUCKERS

For all decal truck sign needs . . . Meyercord is number one with truckers and fleet owners. Meyercord technical skill and unexcelled art facilities provide lower cost, longer lasting, perfectly uniform pictorials, trademarks and lettering for your trucks and company cars. Write for prices and full information today . . . no obligation.

THE MEYERCORD CO.

World's Largest Decalcomania Manufacturers

DEPT. A-515, 5323 W. LAKE ST., CHICAGO 44, ILLINOIS

Safety Winners Tip Off Secrets

(Continued from Page 78)

Competition & Incentives Key Success

John W. Jacobson
F. S. Boutell Driveaway Co., Inc.

WITHIN our firm we have attempted to lay our program on what we believe to be four basic elements of any successful effort in accident prevention. Namely, (1) Individual competitive effort; (2) Group competitive effort; (3) Incentives, and (4) Individual recognition. This is in addition and subsequent to the fundamentals of proper selection and training.

We are blessed with complete management cooperation who are assured by way of illustrated results the degree of success in all the purposes to which we have previously referred. Such illustrations require a minimum of effort on our part as a department. Management, in any case, merely has to watch the results unfold. Safety, courtesy, favorable employee and public relations cannot be kept a secret! Of course, the reverse would also prove true.

Our maintenance department treats our operating personnel as patrons or customers and thus increased favorable relations are established between the mechanic, foreman and driver, assuring complete cooperation and understanding between these two vital operations.

Incidentally, and importantly, we feel that all of the above must be generously sprinkled with the spices of sincere human relations.

PM Is a Must in Safe Driving

Albert J. Sziarto
Avondale Milk Transport Co., Inc.

WE employ a very thorough preventive maintenance program, which at first seemed costly, but after only two years of operation, we have found that it has already returned very profitable dividends. We have enjoyed an excellent two years of business through the strict adherence to schedules through better safety, which we attribute to our PM program and a continuous driver training program, which is so necessary in the movement of raw fluid milk.

Our safety program consists primarily of meetings or conferences at which are discussed all possible aspects of safety. The most impressive item discussed at these meetings is a discussion by all men of any or all accidents that they may have witnessed or authentically have heard of, how the accident happened, why it happened, and most important: how it could have been averted, in conjunction with this discussion a large blackboard is used to show in detail all aspects of the accident. *We strongly feel and impress on our men, that accidents are in our belief, 90 per cent of the time negligence on the part of the driver or drivers involved, the other 10 per cent possibly due to faulty equipment as a result of lack or improper maintenance;* and towards this end we do our utmost to attain perfection, not only as a safety factor, but as a service factor in the transportation of our commodity, which is highly perishable.

END

Please Resume Reading Page 79

You're sure to find the exact Truck Body you need among

FRUEHAUF'S 500 STANDARD BODY OPTIONS!

EXACTLY THE RIGHT TYPE
Straight frame in 12, 14, or 16 Foot Lengths.
Wheelhousing in 12 and 14 Foot Lengths.

EXACTLY THE RIGHT DOORS
All Standard and Special Locations.
All Widths and Heights, Single or Double.
Precision Fit, Pressed-Steel Hinged, Cam Locked.

EXACTLY THE RIGHT FITTINGS
Express Gates, Tailgates, Elevating Tailgates.
Deluxe I. C. C. Lights and Reflectors, Vents.

AND THEY'RE PRICED AS LOW AS

$665.00*

*12-ft. Straight Frame, Open Rear End, Taxes Extra

ASK for Fruehauf's free Model Make-Up Kit. It's easy to assemble your own scale model in a jiffy before ordering.

Truck Body Division
FRUEHAUF TRAILER COMPANY
DETROIT 32, MICHIGAN

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"UNIT-BUILT"
Truck Bodies

UNIT-BUILT FOR IMMEDIATE ASSEMBLY BY YOUR FRUEHAUF BRANCH!
VALUE-BUILT FOR BIGGER PAYLOADS, LOWER UPKEEP, LONGER LIFE!

Easy on ... easy off but on the job, it really sticks

INDUSTRIAL TAPE CORPORATION, NEW BRUNSWICK, N. J.

New Products

Continued from Page 91

P14. Slow Signal

A new signal to indicate deceleration has been announced by Auto Safety Signal Co., Inc., New York City. It consists of a small license plate sized

signal attached to the rear of a truck, bus or other vehicle that flashes in neon red letters the word "slow" when actuated by the accelerator. The flash stops as soon as any additional pressure to the accelerator is applied. It is not necessary to transfer the foot to the brake for the signal to operate. A blueprint is enclosed with each unit showing complete installation.

P15. Extinguisher

A new stored pressure type vaporizing liquid fire extinguisher with trigger control has been made available to the fleet field by Kent Extinguisher Co., Grand Rapids, Mich. This unit it said to be quick acting, impervious to low temperature and resistant to corrosion. Servicing is simple, there being only one moving part. A glance at the gage shows working condition. When gage reading is down, air pressure is down, air pressure can be added with a shop air line. Refilling after use is said to be simple. The extinguisher features a spun brass shell with welded construction. It is approved by Underwriters' Laboratories.

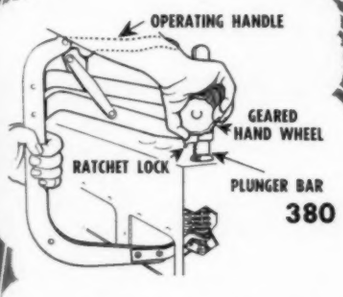
P16. Electronic Scales

Requiring only a shallow pit, electronic type scales are now in production by Cox and Stevens Aircraft Corp., Mineola, N. Y. Truck platforms are supported by four or six, 6-in. high, electronic weighing cells depending on scale capacity. No other equipment is required in the pit. Permanent resistance wire strain gage units in the cells transmit the weight impulse to the indicator. Standard platform and weighbridge sizes are available with the scale capacities ranging from 10 to 50 tons.

(TURN TO PAGE 194, PLEASE)

K-D Tools make Profits soar on Valve Jobs

and sky's the limit on what you can service!



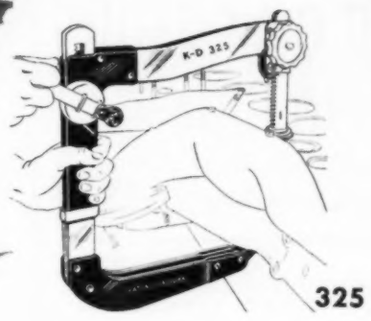
380

Here's your "universal" valve spring compressor! Services both L-, and overhead valve engines, old or new . . . many truck and bus engines . . . most tractors. The right tool for new Ford and Lincoln overhead engines. It's one man operating, dependable as the sunrise, and FAST in the bargain. With normal care you'll own it, use it for years.

608

Light as a cloud, self-supporting — easy to load. Replacing keepers is safe, speedy with K-D 608 Inserter. Designed to handle the one size split keeper used in most present day motors (incl. Ford).

For larger size keepers buy K-D 605 Inserter. For thin, split collar type keepers, buy K-D 609 Magnetic Inserter.



325

You'll service BIG truck and bus motors with K-D 325 Compressor—many with manifold in place! One man operating—services both L-head and overhead valve engines. The plunger bar together with the selection of jaws (3 prs. furnished) provide flexibility to service valves of any length — from shortest to longest. A big helper toward bigger profits. Ask your Jobber.

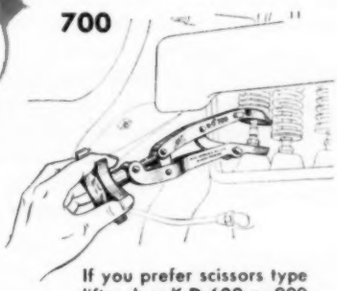
335

For all V-8 Cadillac and LaSalle engines 1936 to 1949. (On new overhead engines use K-D 380 above.) You can remove and replace all valves without walking from side to side for each valve. Unique brake for instant positive locking at height desired. Designed for shops doing a large volume of Cadillac business.* 335 Compressor and 336 Inserter comprise 337 Set.

*For occasional service buy K-D 339 Cadillac Lifter, a lower priced tool.

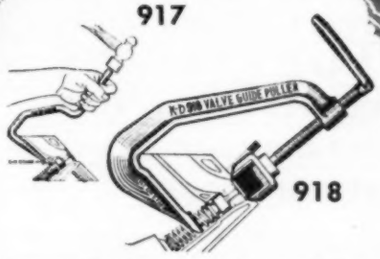
A screw-type lifter for over or under fender use on deep set valves. Very compact (8" long) yet provides plenty of lift. Allows ample working space and clear view of all valves. Ideal for all Chrysler-built L-heads, also Ford 6 cylinder L-heads after 1948.

700



If you prefer scissors type lifter, buy K-D 600 or 900 Lifters. Fast, dependable, old favorites. Ask your Jobber.

917



918

Remove Ford valve guide assemblies no matter how tight they're stuck with K-D 920 Set. (917 and 918 shown make 920 Set.) 917 Driver removes retainers; 918 Puller removes assemblies. Proven tools for Ford V-8's from 1934 to 1952 (except 60 h.p., 150 h.p., and overhead engines).

Famous K-D Valve Service Bulletin gives complete detailed service on all Ford-built, from Model A's to date. Free, write for Bulletin 952.

K-D TOOLS

K-D Mfg. Co., Lancaster, Pa.

Write for free catalog. Over 100 Tools.

"THIS LUBRICANT CUT OVERHAULS IN HALF"

—says WESTERN AUTO TRANSPORTS, INC.

"Operating over 200 tractors and 200 trailers from Detroit to the West Coast, we encounter temperatures from 120° above across the desert to 40° below in the mountains of Colorado. We have found that with LUBRIPLATE our wheel bearing packing mileage has tripled. Since using Lubriplate A.P.G.-90 in our transmissions and differentials, we are getting double the mileage between their overhauls."

For nearest LUBRIPLATE distributor, see Classified Telephone Directory. Send for free 56-page "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

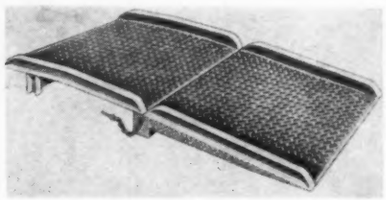
REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

New Products

Continued from Page 168

P17. Loading Ramp

Penco Engineering Co., San Francisco, Cal., has developed a two-section ramp for use where materials handling equipment has a low under-clearance,



and where the loading dock is much lower than truck floors. The ramp is made from lightweight magnesium with capacities from 1000 to 5000 lb.

P18. Gapping Gage

AC Spark Plug division of General Motors has introduced a new spark plug gapping gage. Designated as the type No. GG-4, the new gage is described as an easy to use, non-jamming, zip slide action tool. It has six, round wire feeler gages for checking plug gaps and four sizes of gapping tools for adjusting the ground electrode.

P19. Spark Plug Tool

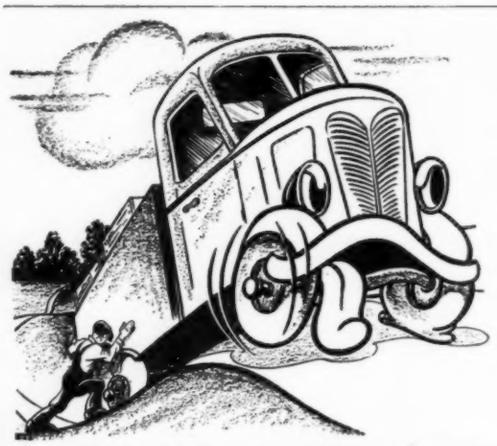
A new inspection tool designed for close examination of spark plug firing ends, is being marketed by Champion Spark Plug Co., Toledo, Ohio.

Combining a flashlight and magnifying glass of 2½-power, the tool can be used for examination for fuel deposits, incomplete or uneven abrasive cleaning, cracked or chipped insulators and checking condition of electrode sparking surfaces.

P20. Fast Charger

A new portable 6/12 volt fast charger is being introduced by King Electric Equipment Co., Cleveland, Ohio. It has a dry rectifier and is protected by an automatic reset circuit breaker. The new charger, known as Model BC-54, is said to restore starter operation in five minutes, recharge 6 or 12-volt batteries in two hours or less. It is housed in a light-weight case complete with carrying handle.

(TURN TO PAGE 196, PLEASE)



Don't Let SLUDGE Cripple Your Fleet!

If your trucks are on stop-and-go-service, or if some are known to be sludgers . . . you can add many more miles of useful service by desludging periodically with Magnus 755.

In less than two hours you can free your engines of sludge and varnish . . . restore lost compression and power—resulting in quieter, smoother performance.

Magnus 755 won't replace worn parts . . . but if sludge is your trouble, Magnus 755 will eliminate it.

Write today for complete information on desludging with Magnus 755.

MAGNUS CHEMICAL COMPANY, 38 South Avenue, Garwood, N. J. In Canada—Magnus Chemicals, Ltd., Montreal. Service representatives in principal cities.

Magnus

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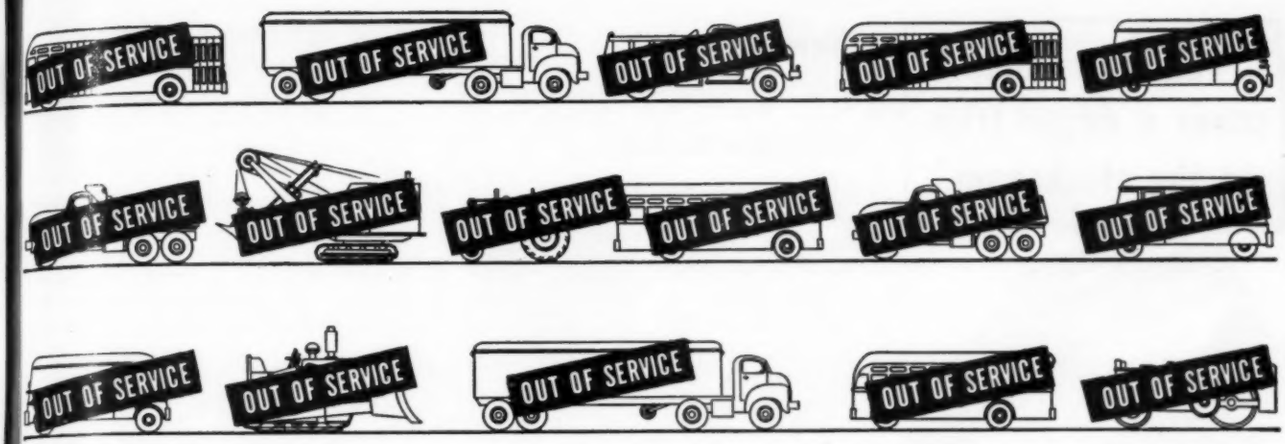

Ghost Fleets Waste Thousands of Dollars Daily

TITEFLEX® Can Keep Them Operating!

Every day maintenance of gasoline, oil, water and air lines costs vehicle operators thousands of dollars because of idle equipment and lost manhours . . . a loss that TITEFLEX can prevent.

TITEFLEX metal hose will not crack, bake or deteriorate—even when exposed to high engine temperatures for long periods. It withstands the corrosive action of gas, oil and other liquids. And even under the most severe operating conditions, TITEFLEX remains fully flexible and vibration-proof. What's more, longer service life makes TITEFLEX more economical than synthetics, rubber or fabric-packed hose.

Photo courtesy of Unit Crane & Shovel Corp., Milwaukee, Wisc.

TITEFLEX high pressure air lines replace rigid tubing and non-metallic hose for brake and transmission control on equipment made by Unit Crane & Shovel Corp., Milwaukee, Wisc. TITEFLEX practically eliminates air line maintenance problems on Unit Cranes.

Our design and engineering staff will be glad to help you with your flexible tubing problems. Send the coupon below for complete information—there's no obligation. (Check TITEFLEX ignition shielding, if you need to suppress engine noises or waterproof ignition systems.)

Let Our Family of Products Help Yours

Titeflex

√ Check products you are interested in.

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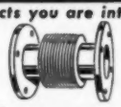
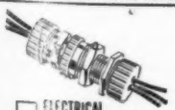


☐ PRECISION BELLOWS

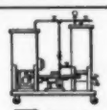
☐ IGNITION HARNESS

☐ IGNITION SHIELDING



☐ ELECTRICAL CONNECTORS

☐ RIGID AND FLEXIBLE WAVE GUIDES



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"This one clamp saves a dozen trips to the stockroom"

"Aero-Seal"
WORM DRIVE
HOSE CLAMPS

No need for a trip to the stockroom for a clamp to tighten a leaky hose. Overhaul after overhaul, season after season, the mechanic simply replaces the worn hose and re-uses the same Aero-Seal Hose Clamp.

WON'T CRIMP—CAN'T LEAK

Worm drive applies even pressure all round the hose. Smooth saddle prevents cutting. No crimping—Aero-Seal can be replaced in any position. Three threads of worm always engage deep into slots of stainless steel band . . . hold hose tight over a million miles of roads!

REPLACE ANYWHERE—ANY TIME

A man can install an Aero-Seal any place he can reach with thumb and finger. Integral construction—no parts to lose. Self-feeding when worm engages band. Screw-driver slot or thumb grip screw styles. Tighten with a twist of the wrist.

Use of stainless steel subject to government regulations.

ANOTHER BREEZE PRODUCT

BREEZE CORPORATIONS, INC.
41 South Sixth St., Newark, N. J.

New Products

Continued from Page 194

P21. Air Switch

A pressure switch complying with ICC regulations for sounding a buzzer or other signal when air pressure in a tank falls below the safety level now is being produced by the Rochester Mfg. Co., Rochester, N. Y. The switch has a pressure-sensitive diaphragm, enclosed in a one-piece steel case drawn from .050 terneplate.

P22. Splash Guards

A new-type, two-piece splash guard —which combines metal and rubber— has just been introduced by Anchor Rubber Products, Inc., Cleveland, Ohio. Main advantage of this new splash guard is the permanent installation of a steel plate with replaceable rubber skirt. The plate bolts to the truck underbody and remains as a permanent unit for the attachment of the rubber skirt.

P23. Drying Oven

The Fostoria Pressed Steel Corp., Fostoria, Ohio, announces its new Model 414V traveling oven. The low-priced oven features Fostoria's patented Evenray 24 karat gold-plated, radiant-wall construction and Fostoria-engineered lamp distribution. The 414V operates within the spray booth or spraying enclosure and can accommodate both passenger cars and panel trucks. This oven reverses automatically and the distance of travel is easily adjusted for varying car lengths. Models are available for both 240-volt, single phase and three phase services.

P24. Accelerator Interlock

An accelerator interlock that prevents bus or truck operation when engine oil is low, oil pump is faulty, air pressure is low, engine temperature is excessive, exit doors are open or emergency door is unlocked, is being marketed by National Pneumatic Co., Inc., Boston, Mass. The interlock may be actuated by any or all of a series of switches, such as the oil pressure switch, the air pressure switch or the thermostatic switch. Normally open, each of these switches will automatically close when trouble is indicated along its line.

P25. Ignition Contacts

Designed for all three ignition systems, a new line of ignition contacts are being marketed by Echlin Mfg. Co., New Haven, Conn. Contact points are mirror finish tungsten. A non-slip, grooved bushing prevents contact arm from slipping on the bushing and grounding. A copper conductor strip permits unhampered current flow. Also featured are free floating springs for self-alignment, tungsten oversize bushings and heavy-duty construction.

P26. Lift Truck

A new lift truck especially designed for narrow aisles is being made by Revolator Co., North Bergen, N. J. For example, if 48 in. square pallets are used, an aisle as narrow as 6 ft can be used since the aisle need only be 2 ft wider than the load length. The base of the machine straddles the pallet and the forks are thrust under the pallet for the lifting. The truck is electrically operated.

P27. Armature Lathe

A precision armature lathe and mica undercutter for cars, trucks and buses is being made by Dixie Machine Tool Co., Cincinnati, Ohio. It handles both centered and centerless type armatures up to 6 in. in diameter. It includes such features as ground cast bed, precision dovetail ways on carriage and crosslide with adjustable gibs, oilite adjustable spindle bearings, automatic power feed, special Jacobs-spindle and tailstock chucks, and fast feed lever.

P28. Shut Off Valve

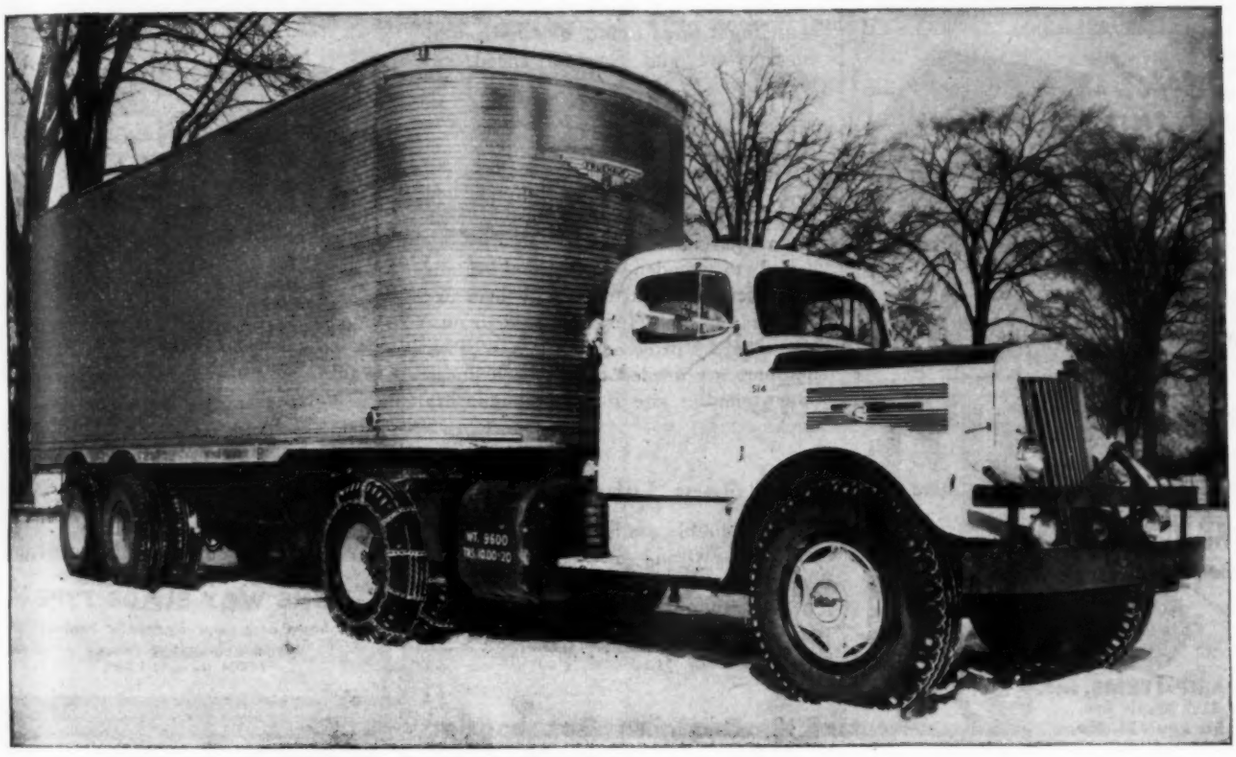
A new tractor air brake, leverless shut-off valve to prevent the escape of air from the tractor brake system in the event of a trailer break away has been announced by Wm. S. Campbell Sales Co., Milwaukee, Wis. Installed without special tools, the valve consists of two main parts, one sliding over the other so that when a break occurs the sliding member is pulled outward to close the air line.

P29. Fork Lift

A new Model No. 20, 2000 lb capacity, fork lift truck has been announced by Industrial Truck Division, Clark Equipment Co., Battle Creek, Mich. It has twin double-acting tilt cylinders, honed cylinder surfaces and piston type construction. Rods are protected from dirt by rubber dust boots. It is equipped with a quick-change clutch. It has an Elliott type steering axle pivoted in rubber torsional bearings at the truck frame center to permit constant wheel contact over uneven surfaces.

(TURN TO PAGE 198, PLEASE)

DOUBLE PROTECTION!
DOUBLE WEAR!



McKAY MULTI-GRIP CHAINS

Give **"Twice the Roadbite"**

1. Two Case Hardened Traction Bars per Link.
2. 312 Gripping Points per Chain.
3. More Surface Contact Than Any Other Design.

See Your McKAY *Jobber NOW!*

THE McKAY COMPANY

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For better traction
Use CLAW
Double-Duty
TRUCK CHAINS
Columbus McKinnon Chain Corporation
TONAWANDA, N. Y.

New Products

Continued from Page 196

P30. Air Compressor

PAR Compressor Division, Lynch Corp., Toledo, Ohio, has announced new 7½ and 10-hp air compressors. The new air compressors feature optional increment starting, centrifugal unloading, tapered roller bearings, counter-weighted crank shaft, ring and centrifugal force oiling, new horizontal check valve and constant speed unloading.

P31. Dock Bumpers

A new, rubber dock bumper has been developed by the Durable Mat Co., Norwalk, Ohio. It can be lag bolted to wooden docks, welded on steel facing and fastened with lead expanders on concrete. It is said to outlast wood by three or four times. Two bumpers are needed for 8 or 9-ft doors and a smaller size is available for lift docks.

P32. Gear Lubricants

Three double graded lubricants, SAE 75/80, 80/90 and 90/140, available in their All-Oil and their SCL Hypoid Multi-Purpose types of gear lubricants, have been announced by Kendall Refining Co., Bradford, Pa.

P33. Caulking Gun Loader

A new caulking gun loader that fits the top of any standard 11¼-in. diameter, 5-gal pail has been announced by Force Flo, Inc., Cleveland, Ohio. The caulking gun barrel fits on the loader and, by operating a lever, the material is fed directly into the gun from the container.

P34. Portable Dryer

A new, infra-red, portable dryer has just been announced by Trippe Mfg. Co., Chicago. The dryer, Model No. IR-20, is fully portable and uses 20 special 5000-hr life, infra-red bulbs. The area it will dry is long enough and high enough to cover the longest fender or the widest rear deck in one operation. Both panels with their 20 lamps can be raised or lowered to floor level up to 76 inches. By means of a one-man control handle, the upper panel of 10 lamps can be tilted to any desired angle This unit can be used on any 220-volt, AC, single phase light circuit The total wattage is near 3900.

(TURN TO PAGE 200, PLEASE)

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FOR HEAVY DUTY
WOLF'S HEAD
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100% PURE PENNSYLVANIA
Member, Penna. Grade Crude Oil Association

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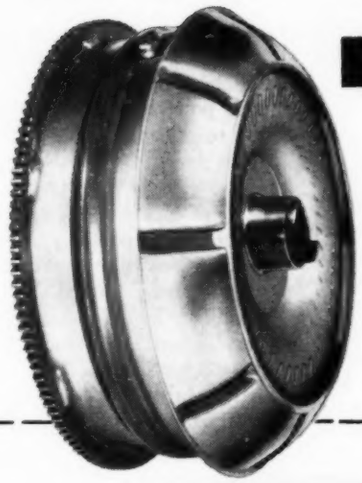
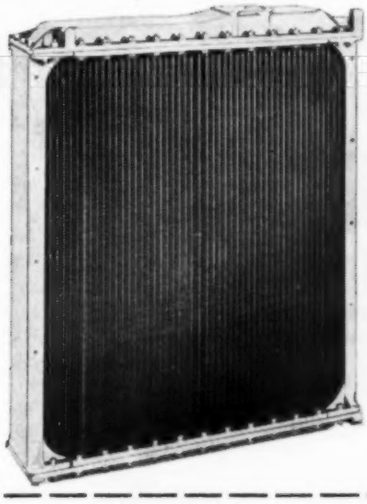


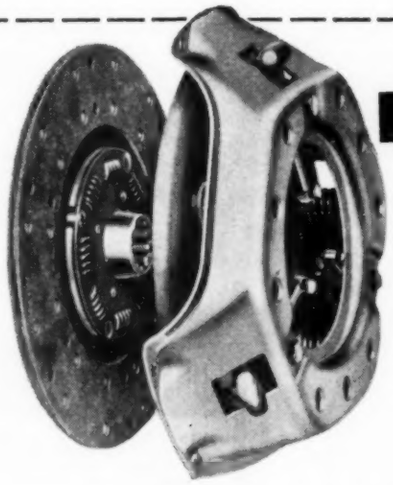
LONG TORQUE CONVERTERS

Here's a package that combines clean design, low-cost production and excellent performance. Long torque converters have velvet-smooth pickup and infinitely variable torque multiplication. Air-cooled . . . simplifies transmission system. Fabricated almost entirely from stampings . . . keeps unit cost *low!*

LONG RADIATORS



. . . THE name in radiators since 1903! Recognizing Long's superior ability in the field of heat exchange, leading manufacturers have equipped millions of vehicles with Long radiators. This equipment spans the entire range of size and capacity . . . from the smallest passenger car to the heaviest-duty commercial, farm and military vehicles.



LONG CLUTCHES

Rugged and dependable, Long clutches provide effortless shifting, smooth power flow. With Long's semi-centrifugal design, torque capacity increases as speed increases. That means less slippage, less wear, low pedal pressure . . . *longer service!* Since 1922, Long has provided heavy-duty clutching to leading vehicle manufacturers.

B-W ENGINEERING PRODUCTION

LONG MANUFACTURING DIVISION
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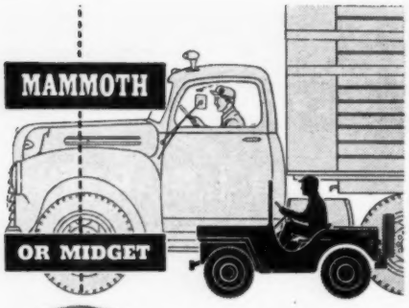

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New Products

Continued from Page 198

P35. Arc Welder

Featuring a magnetic amplifier principle, Miller Electric Mfg. Co., Appleton, Wis., has announced a new selenium rectifier DC arc welder said to combine the advantages of AC transformer type and DC motor generator welders. It gives a high, short circuiting current that provides a pulsating DC current said to insure faster electrode deposition and sounder, denser welds. The electric control makes remote operation possible. It is available in four sizes to cover all DC welding applications.

P36. Voltage Control

A trailer voltage control usually mounted on the outside rear of the tractor cab is for use when the electrical system of the tractor is 12 volts and the system of the trailer either 6 or 12 volts. A control, a switch and a meter in the unit indicate and control the amount of current transmitted to the trailer. The unit, made by Garden State Mfg. Co., South Plainfield, N. J., provides six circuits, two 50-watt directional signal, one 50-watt stop light, one 25-watt tail light, one 150-watt marker light and one ground.

P37. Soldering Iron

Snap-on Tools Corporation, Kenosha, Wis., announces the R-115A, a lightweight, two-speed soldering iron. It weighs 9 oz., is easy to handle and control, and heats to soldering temperature in 40 seconds. Fast heating is accomplished by use of a two-speed circuit. Depressing the thumb button on the handle delivers 100 watts at the tip for fast heating or for extra heat for heavy soldering jobs.

P38. Drying Ovens

Two sizes of baking panels and three ovens in a range of sizes to handle complete cars and small trucks have been added to the DeVilbiss Co., Toledo, Ohio, line of equipment. The ovens are fully automatic and come equipped with electrically coupled timer and speed control mechanism which eliminate hazards of over baking. In addition selective switches control individual lamp zones so that just one side or the top area of a car can be baked without using the entire unit.

P39. Lift Trucks

The first 1953 models announced by Clark Equipment Co., Battle Creek, Mich., are pallet trucks, electric battery-powered, with a capacity rating up to 6000 lb. They can be supplied with forks to handle any size pallet, either single or double faced. The "rider" model truck has a tread plate where the operator can stand comfortably; it takes power from a single-tray battery arrangement. The conventional "walker" model has a double-tray battery layout. The trucks feature double hoisting cylinders, 5 hp motor-in-wheel drive, full time delay control with all contactors interlocked for progressive speed positions.

END

Please Resume Reading Page 92

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